Nov27'56

NATIONAL FISHERMAN

NOVEMBER 1956

COAST GUARD'S

12"

CIRCUMFERENCE

COLUMBIAN HAWSER

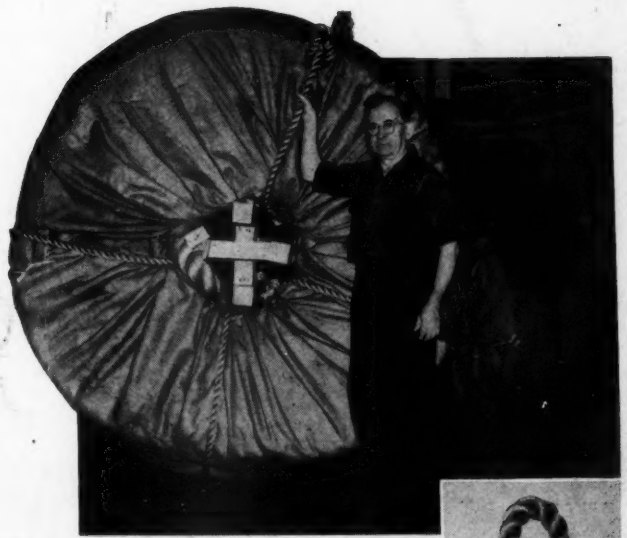
greatly exceeds

SPECIFIED *BREAKING* STRENGTH

A 12-inch, 3-strand Manila hawser made for the U.S. Coast Guard was required to meet a breaking strength of 105,000 lbs. (Federal Specification TR601a), and a rated working strength of 21,000 lbs.

Test lengths placed on the Columbian strength testing machine — one of the largest in the industry — withstood a tension of 117,000 lbs. without breaking. That was close to the dial limit of the strain gauge. Because of extreme rope diameter, the machine was not pushed further.

Critical inspection of the tested rope showed that not a single yarn had been fractured. It is reasonable to assume that the Columbian hawser delivered to the Coast Guard could have withstood several thousand pounds more strain without parting.



Ready for shipment to Coast Guard, this 1500-ft. coil of Columbian Manila hawser weighing 6760 lbs. stands well above man's head. Note diameter of rope at center of coil: thicker than a man's arm. Few companies are equipped to take orders for rope this size.

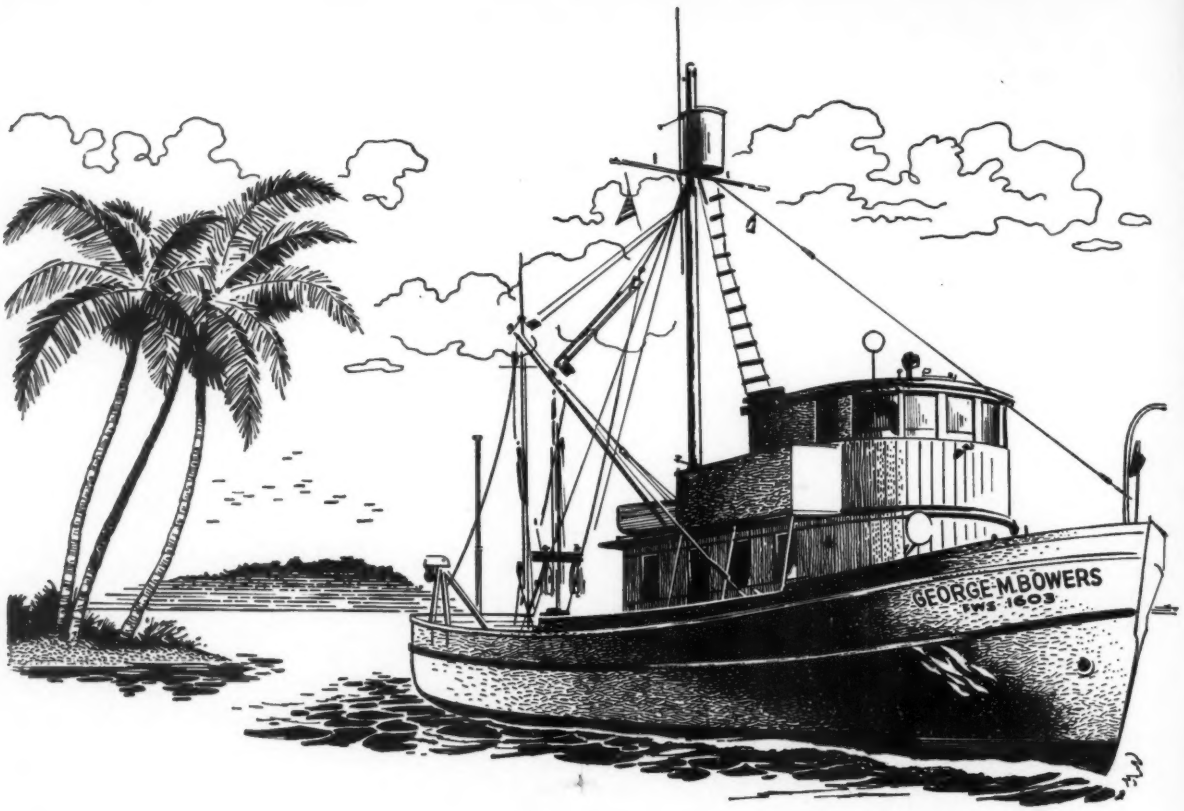
Still in perfect condition after repeated tests, test length remains in Columbian laboratories for inspection — and retesting — for anyone wishing to examine it.

Extra test-length of hawser is rigged on Columbian testing machine, and tension applied.

The Rope with the Red, White and Blue Markers

COLUMBIAN ROPE COMPANY
Auburn "The Cordage City," N. Y.

ROPE COLUMBIAN TWINES
TRADE MARK



New Fish & Wildlife vessel *features TWIN DISC equipment*

In its continuing research in exploration fishing and gear development fields, the U. S. Fish & Wildlife Service recently launched its latest and most modern "floating laboratory," the 92-ton vessel, the *George M. Bowers*.

Built by Steam Ways Corporation, Tampa, Florida, to Fish & Wildlife Service specifications, the *George M. Bowers* has a 73-foot length, 21-foot beam and a 7-foot draft. Main propulsion is provided by an Allis-Chalmers Marine Diesel, Model 6-DC-1879 (Buda Div.) rated at 192 hp at 1200 rpm.

Power is transmitted through a Twin Disc Marine Reverse and Reduction Gear having a 3:1 reduction ratio. The vessel can make a continuous speed of 10 mph, and has a cruising range of 5000 miles.

Air controls are used for the engine and marine gear, with the vessel's compressor being driven through a Twin Disc Front Power Take-Off mounted on the propulsion engine.

The *George M. Bowers* is one more example of the use for Twin Disc products in the marine industry. Twin Disc Marine Gears are available in a complete range of capacities, from 40 to 340 hp, from 600 to 2500 rpm.

Specify Twin Disc Marine Gears for your next boat or whenever you repower existing ones.

TWIN DISC
CLUTCHES AND HYDRAULIC DRIVES

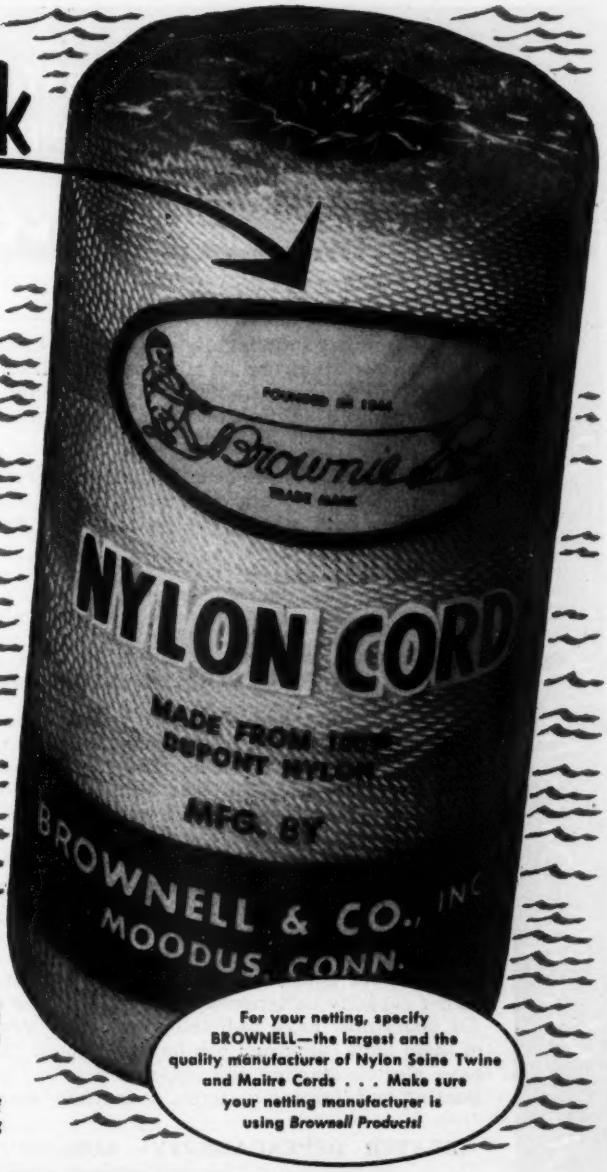
TWIN DISC
Marine Gears

TWIN DISC CLUTCH COMPANY, Racine, Wisconsin (Hydraulic Division) Rockford, Illinois

This Trademark

backed by over 100 years of serving the fishing industry . . .

means you've got the very finest nylon twines and maitre cords for fishing operations.



Brownell Nylon Seine Twines, Maitre Cords and Ropes are made especially for you from high tenacity 100% DuPont Nylon yarns. But quality yarns is just the *beginning* of the *Brownell Story*. For more efficient performance, all our Nylons are engineered for the specific purposes they are to be used for. Our rigid factory specifications on all our Nylons call for the *exact twist counts* to assure you the maximum strength plus the maximum yardage. And all our Nylons are processed to prevent excessive untwisting.

For your convenience we package Brownie Seine Twines in ¼, ½, 1, or 2 pound tubes.

You'll find the Brownie Trademark on the largest selection of Nylons for the Fishing Industry. Here are just a few:

- Regular Nylon Seine Twine
- Stretched and Bonded Nylon Maitre Cord
- Lobster Pot Nylon Heading Twine (both Regular and Bonded)
- Combination Nylon Seine Twine (Spun and Filament)
- Brownie Type "E" Nylon . . . the only successful trawl or long line available today.
- Spun Nylon Seine Twine
- *Plus* a complete selection of Nylon Hanging or Seaming Twines

For your netting, specify BROWNELL—the largest and the quality manufacturer of Nylon Seine Twine and Maitre Cords . . . Make sure your netting manufacturer is using *Brownell Products!*

Included among Distributors of Brownell Products are—

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Winnipeg 2, Manitoba, Canada

ONTARIO FISHERMEN'S CO-OPERATIVE
Port Dover, Ontario, Canada

F. C. ROBBINS (IMPORT)
4 Alma Street
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UNDINE INTERNATIONAL COMPANY
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WESTERN MARINE SUPPLY CO., LTD.
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Vancouver, B.C., Canada

Plus Many Others . . .

For additional information on Brownie Products and the name of your nearest distributor, write to—

BROWNELL & CO., INC.
MOODUS, CONNECTICUT

80% Of The Fishing Vessels In The Fleet Of The GLOUCESTER WHITING ASSOCIATION Are Equipped With The World's Finest Surrette MARINE BATTERIES!

Be Guided By Experts.. Specify Surrette Marine Batteries!

The vessels are individually owned by members of the Association, and an affiliated organization, Fisherman's Wharf, Inc. maintains the unloading and outfitting dock and carries supplies for the boats.

The association has been handling Surrette Batteries for 10 years, and many of the boats have been getting over five years service from Surrette.

Fisherman's Wharf
Gloucester, Mass.

Mr. Kershaw, manager of the Association, explaining this preference for SURRETTE BATTERIES sums it up this way:

"Our boats have had wonderful performance with Surrette Batteries. They stand up well and we have never had complaints of poor performance. Best of all, we like the quick service we get from Surrette on deliveries. Good service is most essential to fishermen; they can't afford to lose fishing time because of tie-ups.

"With so many boats in our fleet, we have encountered every battery problem. Surrette has always come through with the information and service we need. Surrette knows the requirements of the fishing industry and has given us many valuable hints on proper use and maintenance of batteries.

"Most of our boats, including the smaller ones, have gone to larger capacity batteries because of increased electrical loads. All boats now have radiotelephones and loran, and a third of them have radar and fish finders. About 75% of our boats have electric starting engines, and use Surrette combination starting and lighting batteries or separate starting batteries."

Mr. Raymond Kershaw, Mgr.
Gloucester Whiting Assoc'n.

GREATER DEPENDABILITY — LONGER LIFE — WITH SURRETTE MARINE BATTERIES!

Members of the Whiting Association have had experience with most every other make of Marine Battery. Note Mr. Kershaw's comments above and we quote "Service is most essential to Fishermen. They cannot afford to lose fishing time." We are proud that the members of the Whiting Association have almost unanimously endorsed Surrette Marine Batteries, over 80% of the fleet equipped with Surrette Batteries. Their choice based on experience and by comparison with other makes. These thrifty New England Fishermen know that Surrette Marine Batteries last up to 100% longer . . . have the greatest capacity size for size and pound for pound. No other make, regardless of cost, has the proven performance record of Surrette in the North Atlantic fishing fleet which only the most rugged of men and equipment can endure. Qualifications for this endorsement are no accident. In both the North and South, Surrette Marine Batteries on work and pleasure boats have become a favorite with the experts and commercial operators.

It costs no more to have the greatest capacity size for size and the most dependable long life which is made possible by expert workmanship . . . best materials . . . Rezistox Plates. Specify H-H-G or G-T-N-S types.

"See us at the National Motor Boat Show"

Surrette MARINE BATTERIES
JEFFERSON AVENUE SALEM, MASSACHUSETTS

November 1956 Vol. 37 No. 10

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NATIONAL FISHERMAN

The Fishing Industry Magazine

Formerly Atlantic Fisherman, Established 1919.

International Pink Salmon Fishing Agreement

Agreement between United States and Canada regarding means for co-ordinating national and joint conservation programs for pink and sockeye salmon of common concern in the Juan de Fuca-Fraser River area, was reached October 25 at an Ottawa conference. It was decided that this objective might best be achieved by expanding authority of International Pacific Salmon Fisheries Commission, by amendment of Sockeye Salmon Convention of 1930, thus permitting the Commission to investigate pink salmon stocks of the Fraser River and regulate the fishery. The Commission's objective would be to maintain pink salmon stocks at level of maximum sustainable productivity, and to insure insofar as practicable an equal division of the catch of pinks by Canadian and U. S. fishermen.

The International Pacific Salmon Fisheries Commission, which was established in 1937, consists of three representatives each from Canada and United States. It has had responsibility for investigation and management of sockeye salmon of Fraser River system, and has done an outstanding job.

Under new agreement reached at Ottawa, which has been referred to Governments of United States and Canada for signature, the size of the Salmon Commission's Advisory Committee would be increased by adding one member from each country, in order to give broader representation from the industry. It is specified that the Commission may begin regulation of the pink salmon fishery immediately after the agreement enters into force.

The agreement provides for equal division of the pink salmon catch between the United States and Canada, and for co-ordinated investigation by research agencies of the two Governments and the Salmon Commission of pink salmon stocks which enter waters described in the convention. It calls for a meeting in the seventh year after entry into force to review results of the investigation and to determine what future arrangements concerning pink salmon conservation might be desirable.

The serious threat which offshore net fishing poses to conservation of both pink and sockeye salmon stocks was noted at the Ottawa conference, and a resolution was adopted calling this matter to the attention of the Governments and recommending immediate action on their parts to solve the problem.

George R. Clark, Deputy Minister of Fisheries of Canada and head of the Canadian delegation, was chairman of the meeting. Vice-chairman was W. C. Herrington of the Department of State, Washington, D. C., who headed the United States delegation.

Representatives of the Governments of both countries, the Department of Fisheries of the State of Washington, and of fishermen, fish processors and vessel owners from the State of Washington and British Columbia, took part in the discussions.

The head of the United States delegation, Dr. Herrington, commented that the United States and Canada are now facing a new problem, but pointed out that past co-operation in the fisheries field augurs well for the success of the pink salmon agreement. This projected treaty represents another step forward in the formulation of joint fisheries conservation programs by the two countries.

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Easy-starting Sea-Horse 35—one of nine great new models, from 3 to 35 hp.

MORE HEAVY-DUTY POWER for '57

Announcing two new Johnson power classes—with five big Sea-Horses at 18 and 35 HP

Slip-clutch propellers on all nine new models make shear pin changes unnecessary.

Automatic compression relief makes new 35s start as easily as motors half their size.

New 10-ampere generator—accessory for electric-starting 35s. Can't overcharge. Supplies plenty of current for night use.

Here's still more Johnson power for all-weather, everyday use. It's heavy-duty power, delivered at the prop under load, so you know these new Sea-Horses will dig in and deliver. And you don't have to flush them after salt water use because they're fully protected against corrosion. For stall-proof idling, round-trip dependability, authentic economy—for any use that an outboard motor can be put to—you can rely on a Johnson. More than ever this year!

FREE! 1957 Sea-Horse catalog, write: Johnson Motors, 140 Pershing Rd., Waukegan, Illinois. *Division of Outboard Marine Corp. In Canada: manufactured by Johnson Motors, Peterborough, Ontario.*

SWEETEST-RUNNING JOHNSONS EVER

Golden Javelin*	35 hp...	$625
Sea-Horse 35*	35 hp...	585
Sea-Horse 35	35 hp...	495
Sea-Horse 18*	18 hp...	475
Sea-Horse 18	18 hp...	395
Sea-Horse 10	10 hp...	340
Sea-Horse 7½	7½ hp...	260
Sea-Horse 5½	5½ hp...	230
Sea-Horse 3	3 hp...	155

**12-volt electric starting (new quick-charging 10-ampere generator with automatic voltage regulator, available as accessory on first two models listed). Prices f.o.b. factory, subject to change. OBC certified brake hp at 4000 rpm (18s and 35s at 4500).*

A million Sea-Horse owners will tell you JOHNSON KNOWS BEST

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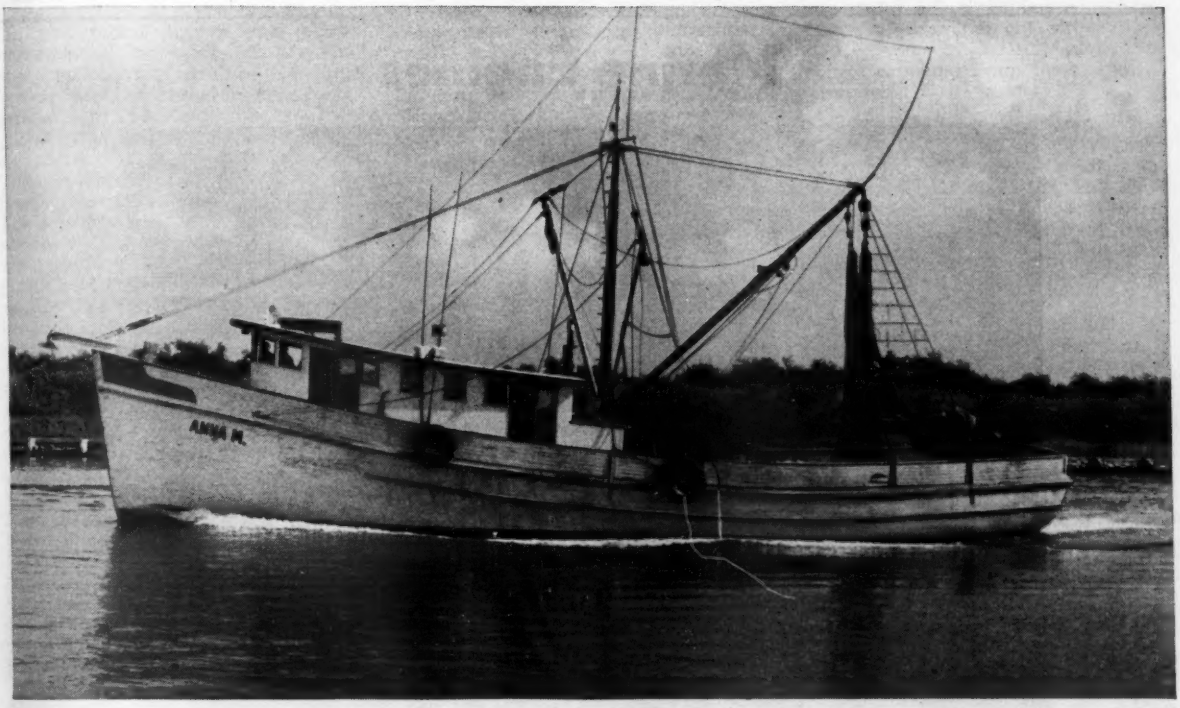
Why are more and more fleets using STYROFOAM INSULATION?



Anna M. is one of twelve 65′ to 80′ shrimp boats operated out of Freeport, Texas, with six 45′ to 65′ deep-sea charter boats, by Muchowich Fishing Fleet.

"Styrofoam is easiest installed . . . maintains top insulating efficiency . . . cleanest and easiest washed," says Ray Muchowich, owner of 18-boat fleet. And he has used Styrofoam since 1949!

It's a big help to more profitable fishing. That's for sure, because no other low-temperature insulation gives you all these properties:

Styrofoam® (a Dow plastic foam) resists water and moisture better—that's why its low "K" factor stays low. It is permanent—won't rot, mold, deteriorate. It can't absorb water—salt or fresh. It is so strong it can support concrete floors. Yet so light, a cubic foot weighs less than two lbs. Styrofoam can't pack or shift in use. And rodents don't like it. What's more, Styrofoam provides top buoyancy—supports 55 lbs. per cu. ft.

EASILY INSTALLED! MANY USES!

Ray Muchowich reports, "Anyone who can saw can install Styrofoam." He loads his boats with ice, and Styrofoam keeps it from melting during 45- to 60-day trips. That's in the Campeche Gulf, too! Styrofoam is ideal for ice compartments, blast freezers, ice boxes, bulkheads—for more profitable fishing, anywhere.

Learn why this is the most efficient, economical and trouble-free insulation for fishermen. Get your copy of Styrofoam data book. Write: THE DOW CHEMICAL COMPANY, Midland, Michigan—Plastics Sales Department PL514J-1.

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FISHERY PROGRESS

► Fishery Loan Fund in Operation

The $10 million fisheries loan fund, authorized by Fish and Wildlife Act of 1956, has now been established. The law provides that loans will bear an interest rate of five percent and will mature in not more than 10 years. Under terms of the Act, a loan may not be granted unless reasonable financial assistance applied for is not otherwise available on reasonable terms.

Loans will be available "for financing, and refinancing of operations, maintenance, replacement, repair, and equipment of fishing gear and vessels, and for research into basic problems of fisheries."

The loans cannot be extended for any phase of a shore operation.

Broad objective of fisheries loan fund created by Fish and Wildlife Act is to provide financial assistance which will aid commercial fishing industry to bring about general upgrading of condition of both fishing vessels and fishing gear in order to produce more efficient and profitable fishing operations.

Persons in the United States who desire loans should obtain an application form and instruction sheet from nearest Fish and Wildlife Service Fishery Market News Office. Locations of these offices are as follows: Rm. 10, Commonwealth Pier, Boston, Mass.; 155 John St., New York City; 18 S. King St., Hampton, Va.; Federal Building, New Orleans, La.; Post Office Building, San Pedro, Calif.; 421 Bell Street Terminal, Seattle, Wash.; Rm. 618, 565 W. Washington St., Chicago, Ill.

Forms are also available from the central office of the Fish and Wildlife Service at Washington 25, D. C. Completed application forms may be sent to the Washington office of the Service or to field offices from which application forms were obtained.

► Recommend Increase in Tariff

The Tariff Commission has sent to the President a unanimous recommendation that tariffs on imported groundfish fillets be increased by 50%. Their findings showed that domestic groundfish fillet industry has been seriously injured by cod, haddock and other groundfish fillets being imported in increasing quantities. Products now dutiable at 1⅞ cents per pound are recommended to be made dutiable at 2.8125 cents per pound, and those at 2½¢ would be increased to 3¾¢ per pound.

The President has until December 11 to accept, modify, or reject the recommendation.

► Scarcity of Trained Fishermen

The great need for more trained manpower in the fisheries field, particularly trained boat captains and fishermen, was discussed last month by officials and members of the National Fisheries Institute, at its Region III meeting in Houston. Shrimp and menhaden operators reported the continuing scarcity of men qualified to enter this field.

The need for training men under the fishery education bill that recently passed Congress was stressed, but the more immediate problem of supplying efficient manpower in the shrimp and menhaden industries, pending development of the program, points up a difficult situation. The possibility of securing men from foreign countries for immediate use was discussed, and the National Fisheries Institute was requested to inquire into the subject.

► F&WS Reorganization in Effect

Reorganization of Fish and Wildlife Service, as provided by a law enacted this year, became effective on November 5. Two separate bureaus were established under the reorganization as components of new U. S. Fish and Wildlife Service —Bureau of Sport Fisheries and Wildlife and Bureau of Commercial Fisheries.

John L. Farley has been named Acting Director, Bureau of Sport Fisheries and Wildlife, and Arnie J. Suomela is Acting Director, Bureau of Commercial Fisheries. Farley was Director and Suomela Associate Director of the old Fish and Wildlife Service.

Appointments have not been made to two new top-level positions created by reorganization—Assistant Secretary for Fish and Wildlife, and Commissioner of Fish and Wildlife. Appointments to both positions are to be made by the President.

► More Fishing Fleet Additions

During first nine months of 1956, a total of 405 fishing vessels of 5 net tons and over were documented for first time, which was 21 percent more than number reported for corresponding period of last year. The South Atlantic area led all others, with 92 newly-documented vessels, followed by Chesapeake area, with 87 craft.

► Urge Increased Fishery Research

American Fishery Advisory Committee, at its fourth meeting held in Chicago on October 11 and 12, urged immediate implementation of a greatly expanded and balanced program of technological, biological, economic and marketing research and services, to be financed with additional money now available under Fish and Wildlife Act of 1956. John L. Farley, Fish and Wildlife Service Director, presided over the meeting as Acting Chairman.

► Prefer Deveined-Type Shrimp

Shrimp which has been cleaned and deveined before being canned is preferred by a majority of the consumers who buy canned shrimp.

It was found in a recent scientific sample survey of 2,700 households in the United States, that 59 percent of the housewives usually buy the cleaned, deveined type of canned shrimp, while only 32 percent buy the regular, non-deveined type. The remaining nine percent either had no preference or did not know the type of canned shrimp they usually purchased.

► Fish Stick Production Drops

United States production of fish sticks during third quarter of 1956 totaled 11.5 million pounds. This was 2.4 million pounds (18 percent) less than quantity produced during corresponding period of 1955, but was 1 percent above 11.3 million-pound output of second quarter of 1956.

► Fish in Good Supply

Good supplies of staple and specialty types of fish and shellfish will be available for holiday and preholiday events of fourth quarter, according to Fish and Wildlife Service. Such items as oysters, shrimp, crab, clams, lobster, salmon, halibut, tuna, sardines, fish sticks and fillets, will be in good supply. Prices for fresh and frozen fish and shellfish products will be slightly higher, but general level of canned fish will be somewhat lower.

Cold storage stocks of fish and shellfish are down about seven percent below last year, but supplies are still ample, with some items even being in better supply. Additional interest in fish sticks should result from adoption of voluntary Federal standards, and an upturn in that sector of fishing industry is expected.

Alaska salmon pack as of September 1 this year was 2,819,000 standard cases, a 21 percent increase over pack of September 1, 1955. Total pink salmon pack was down slightly, but increases in red and chum salmon packs more than offset the loss.

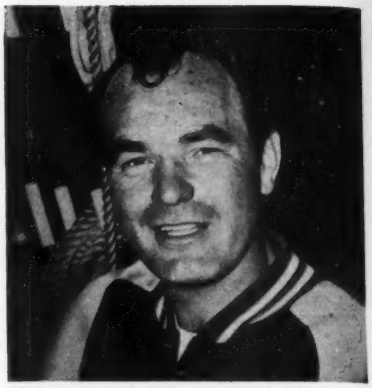
Atlantic oyster beds are still showing effects of hurricanes of recent years, but Pacific oysters will be in expanded supply. A heavy and growing demand for small oysters from new consumer groups in areas where oysters were not formerly readily available, is one reason why supplies will be trailing demand. Prices probably will be somewhat higher.

► Heads National Shrimp Congress

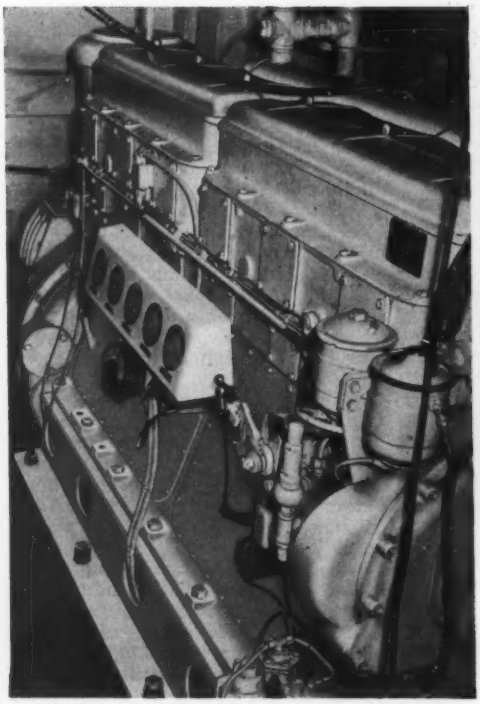
Miss Mary Schulman, Assistant Attorney General for the State of Florida, has been named Executive Director of the newly-established National Shrimp Congress. The organization, formed by Florida and Texas shrimp interests, is intended to represent U. S. shrimp industry on National and International levels.

"My 260 H.P. Enterprise Engine is double its dollar value to me!"

Says NICK VOJKOVICH, owner and captain of the 58 foot seiner "Sierra Madre."



Nick Vojkovich insists on perfection in every piece of equipment aboard his boat. Enterprise power is his first choice—for his next boat, too, now being planned.



Showpiece of the salmon fleet, the "Sierra Madre" is the fastest boat in its class ever launched. Exceptionally maneuverable, her Enterprise takes her from full-ahead into reverse within two boat lengths!

Seiner's compact Enterprise Engine is a six cylinder 8"x 10" model, rated 260 HP at 800 RPM, and equipped with hydraulic reverse and reduction gears, 2 to 1.

Nick Vojkovich is a hard-driving, successful salmon fisherman, operating mainly in Alaska's Bristol Bay area. He designed his boat and selected virtually every item that went into its construction. In the past three years he's skippered the "Sierra Madre" and knows from actual day-in, day-out experience just how good his choices were.

Take the engine. Nick says: "I wanted to go first class and get the very best power plant. I got an Enterprise. Dollar for dollar it's double your value. Its horsepower is right—not overrated; you know you're getting 260 HP when you buy 260 HP. I'd put in an Enterprise again. In fact, I'm designing a new boat now, and will power it with either a 260 or 400 HP Enterprise."

Information on all Enterprise models, 73 to 7703 HP is available on request. Just write for free copies, giving the general specifications of your job, or call in your nearest Enterprise marine sales engineer. There's no obligation.

Over a million horsepower at work the world over!

The "Sierra Madre" was built by Prothero Boat Co., Seattle

ENTERPRISE
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Are Industry-Sponsored Standards for Boat Construction and Safety Desirable?

Comments of boat designers show need for better safety aboard fishing vessels. Indicate that voluntary rules might result in lower rates for boat insurance.*

ALMOST every day an East Coast fishing trawler is disabled and is towed in by the U. S. Coast Guard. There are about 2,000 trawlers actively engaged in fishing in the area, which means that one out of six is towed in every year. This is a very poor record.

Regulations and safety at sea concern all connected with the fishing industry, according to Howard I. Chapelle, Naval Architect located in Cambridge, Maryland. He declared: "There are two distinct points of view involved, and Naval Architects and those interested in safety want fundamental and sensible rules to be adhered to. In many places the livelihood of a number of people is involved in small boat operation. Much of that operation is close to the shore where safety regulations are not really required, and where, if accidents occur, the fishermen usually can walk ashore."

Mr. Chapelle continued: "There is one group of people involved in both safety at sea and the economic problem —the owners. If they are not interested enough to put pressure on the unions, the insurance underwriters and the classification societies, then there seems little hope that much can be accomplished by proposing rules or standards. It is in their interest to do so although, of course, there are many difficulties in the way of establishing a set of regulations.

"In Canada a great number of smaller boats are built under the rules of their Steamship Inspection Service. The Service must approve the plans before long-voyage vessels are constructed, and this is a very healthy situation in many ways. It does add to the cost of the vessels, and it is very difficult to depart from certain standard forms laid down, but the scheme has worked well. The men concerned with the regulations are sensible and competent.

"The matter goes back consistently and constantly to cost. If the owner is not willing to spend the money to have a safe vessel, there is nothing the designer can do, or the boat builder or others connected with the vessel.

"Designers and other people only can enforce standards of construction when those standards are supported by law. So the problem resolves itself into a choice of two conditions: (1) that in which owners of vessels want sound construction and will support Naval Architects and boat builders in building safe craft; (2) enforcement of standards by Government regulations. One or the other will come about in the U.S.A., and when this happens the standards will have to be enforced either by the Government or by an organized group within the fishing industry."

Coast Guard Does not Want to Provide Regulations

Commander L. E. Penso, Naval Architect at the U. S. Coast Guard headquarters in Washington, said that the Coast Guard does not wish to regulate the fishing industry, but would prefer that the fishing industry regulate itself. He said that if regulations were introduced by the Government for the fishing industry, the situation might be parallel to that existing in small pleasure boat building. Coast Guard motor boat regulations are so loose that it is possible to operate a boat which is actually unsafe, and there is not much the Coast Guard can do about it without recommending that Congress pass a new law.

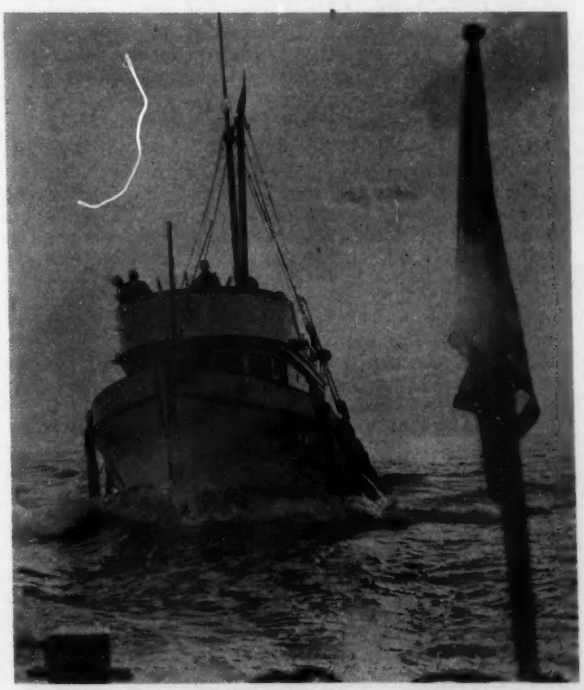
Rather than do that, the Coast Guard has been working closely with the Yacht Safety Bureau, the National Association of Engine and Boat Manufacturers and the insurance underwriters. An organization, known as the American Boat and Yacht Council, is now being planned by these bodies. Its purpose will be to formulate a set of standards for safe construction and equipage of boats.

Commander Penso continued: "The organization suggested for the fishing industry, composed of operators, builders, Naval Architects, underwriters and other interested parties, would be concerned with producing a set of minimum standards, and an owner would not have to build to these standards if he did not wish to do so. However, insurance companies would use it as a basis for insuring boats, and surveyors would use it as a standard for recommending insurance to underwriters. In that way a man who did not meet at least the minimum standards would have to pay more for his insurance."

Says Insurers Should Insist on Safety Standards

H. C. Hanson, Seattle Naval Architect, pointed out that there are many practices current in boat building and in boat handling which call for some sort of regulation, either by an authority set up by the fishing industry or by the Government.

On the Pacific Coast of the United States there are practically no regulations so far as fishing vessels are



ALASKA LIMIT SEINE BOAT "ARLINE" skippered by Capt. Wally Dent of Bellingham, Wash. She is 49'7" x 15'6" x 7'1", and is powered with a 165 hp. General Motors Diesel which gives her a speed of 9 knots. The "Arline" can carry 120,000 lbs. of salmon.

* Material for this article was excerpted from "Fishing Boats of the World", which was edited by Jan-Olof Traung, Naval Architect, Fisheries Division, Food and Agriculture Organization of the United Nations (FAO). The book is based on discussions and papers presented at FAO International Fishing Boat Congress, held at Paris, France, and Miami, Fla., in 1953.

concerned, Mr. Hanson reported, except in the case of lights and lifesaving appliances. Small wooden vessels in the U.S.A., particularly tuna clippers, are mostly constructed to builders' own specifications, and in some cases that construction is not sound, Mr. Hanson pointed out. It is for this reason that he favors setting up a good standard of construction for such boats. Steel vessels are generally built to the American Bureau of Shipping Rules, so no great difficulty is encountered with them.

In the case of tuna clippers, Mr. Hanson reported, the freeboard is usually non-existent aft and, unfortunately, owners sometimes do all they can to eliminate whatever freeboard is provided by the designer. If there were regulations governing such a factor, then designers would have the right sort of backing to produce better vessels. Mr. Hanson stated that marine underwriters form the only force that could back up designers in the U.S.A. at the present time, but they in many cases will insure a vessel in the full knowledge that its construction and stability are unsound.

For example, Hanson said that he surveyed a 103 ft. wooden vessel, and in his opinion she was not fit to go to sea. She was built of very light sawn frames, and the floor timbers and keelson were made for a small boat instead of for large boat construction. Frames were spiked into the keelson, and there was only a 4 in. ceiling. The only bolts in the vessel were used in the shelf. The boat was badly constructed, but, despite the adverse report, the insurance company issued a cover for it.

Another instance of bad construction was that of a new boat whose owner asked Hanson to test it for stability. In this case, when he stepped on the boat the water came half way up the bulwarks. There was no need for any stability test. He told the owner that it would be necessary to take off some of the deck tanks and put ballast in the hold. The owner refused to do so, although warned that he might lose his boat and probably drown himself and his crew. The facts concerning the boat were sent to the insurance company, but they still insured the vessel, which later was lost at sea. The mate was drowned.

These two examples, according to Mr. Hanson, show very clearly why insurance companies are to be criticized. They could and should insist on adequate safety standards, he declared. It is a matter of importance and urgency that the American Bureau of Shipping or some other classification society set up standards of construction for wooden fishing vessels, Mr. Hanson believes.

Opposes Government Safety Regulations

George C. Nickum, Seattle Naval Architect, said that he is opposed to Government regulations for the construction of fishing vessels because he believes they would tend to be inflexible, add to the cost of construction and would be difficult to enforce. He stated that private enterprise should be able to agree on suitable standards, and expressed hope that the losses sustained by the insurance underwriters would make them keep a close watch on construction and other features of fishing boat design.

Mr. Nickum declared that in his opinion improvements in standards of boat construction should be made by the fishing industry if it is to avoid a situation where the Government and people believe regulations should be set up. The insurance underwriters, the technical societies, and the fishing vessel owners, should take an active interest in establishing standards of construction so that the need should not arise for Government regulations, Mr. Nickum believes.

He revealed that there are design defects in many of the larger wooden fishing vessels. For instance, he mentioned the case of a tuna clipper in which the difference between loading conditions caused the vessel to hog about 4 in. between emptying and loading tanks. Obviously she was weak, and this was reported to the underwriters. They should not have let her go to sea, but they issued a cover for her.

Mr. Nickum pointed out that the failure of ships can be classified under four headings: (1) stability and freeboard; (2) lifesaving equipment; (3) fire fighting and bilge pumping equipment; (4) structural strength.

There have been International conferences dealing with all four of these categories, and International regulations have been issued for larger ships. Mr. Nickum said it would be a good plan if the U. S. Fish and Wildlife Service sponsored four committees, with members drawn from the underwriters, fishing vessel owners, skippers, architects and the Coast Guard to draft recommendations in these four categories.

The four committees could make tentative recommendations, and then the Food and Agriculture Organization of the United Nations could do an effective job in sponsoring International cooperation in developing such standards, Mr. Nickum pointed out. Such a scheme as this would take years to become effective but, if properly carried out, it eventually would insure two things: (1) it would show that the industry did not need Government regulations; (2) if public opinion insisted on Government regulations, the recommendations of the committees would provide acceptable standards.

Safety Surveys Should Start with Laying of Keel

Arthur de Fever, Naval Architect located at San Diego, Calif., said that the proposal to set up a safety committee is excellent, and is in line with proposals he has made to insurance underwriters. He suggested a committee of Naval Architects and surveyors from various areas, to get more knowledge of how the vessels in these areas are built and operated. So far there has been little response from the underwriters, he pointed out, and said that no doubt the rivalry in the insurance business stands in the way of forming such a committee.

Surveying a vessel should start from the time when the keel is laid, Mr. de Fever believes. After the vessel is completed and fitted out, a multitude of faults can be hidden. For example, he reported seeing vessels under construction where the ceiling was not doubled, particularly in thicker dimensions of 3 to 4½ in. In some vessels edge fastening and shoe boltings of bilge strakes are very important for stiffness, but they would be of no value without doubling the ceiling.

He said that recently it was discovered in a 96 ft. vessel that the bait tank was made of ⅛ in. metal, which he considered to be criminal. The boat was built on speculation, and no inspection services, no engineers and no Naval Architects were concerned in its construction.

Regulations Should Be Economically Workable

R. L. Eddy, who until recently was head of the Seafood Division in the Louisiana Department of Wild Life and Fisheries, said: "The fisherman depends on people with knowledge to build him a vessel with good sea-keeping qualities. He depends on engineers for power plants that will require a minimum of technical know-how to prevent break-downs and blow-ups. Regulations would be excellent for the fisherman if he was helped economically.

"For example, the State of Louisiana has some 6,500 vessels that often fish at a distance of more than 15 miles at sea. Four attempts to introduce regulations, allegedly sponsored by unions, failed to consider that in effect those regulations would have prevented the fishing population in Louisiana from participating in any offshore industry that later might be developed. A fishing vessel was defined as any vessel over 15 gross tons operating offshore in excess of 15 miles at sea, engaged in commercial fishing.

"In effect, that definition would have prevented some of the 6,500 vessels from operating in Louisiana. Other Bills introduced had the same effect, and no consideration was given to the way in which a shallow draft vessel operates. These vessels would have been required to have licensed mates and pilots. Who can get lost in the Gulf of Mexico? There are only two ways of sailing there —in and out. It is only necessary to drift along to land on a safe shore.

"Regulations also would have required all kinds of engineering equipment which was not necessary, and would have increased the draft of a boat to a point where it would not have been able to pass around marsh and tidelands. Due consideration has not been given to

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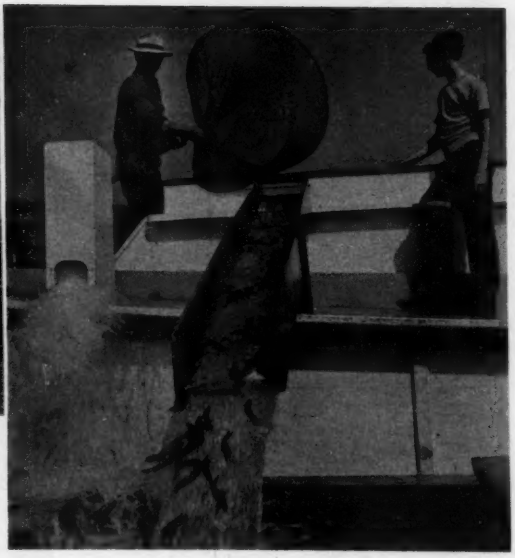


NEW CALIFORNIA BAIT BOAT "AQUARIUS" has two openings on starboard side, through which the bait fish are forced to swim from the net. The 45' craft is owned by Mrs. Gladys Lynn and Charles and Roy Everingham, and was built by Mauricio & Sons, San Diego, Calif. At right is the removable plywood chute which is used for transferring the bait fish from the plywood bait tanks to the receiving boats.

New Plywood Bait Boat "Aquarius" Features Novel Method of Loading Fish

A UNIQUE new method of loading and unloading bait cargoes has been incorporated in the construction of 45' *Aquarius*, a new all-plywood bait boat designed by Phillip H. Thearle, and built by Mauricio & Sons of San Diego, Calif. Because of the unusual design of the boat, which is owned by Mrs. Gladys Lynn and Charles and Roy Everingham, her crew has been able to eliminate the use of scoops, shovels, buckets and conveyor belts for loading or unloading the bait haul. In fact, they never have to touch a fish.

The *Aquarius* carries ballast tanks fore and aft formed by the skin of the boat, and two bait tanks with a capacity of 18 tons. When she takes on bait, the boat is lowered by ballast; the *Aquarius* crew pulls the bait nets to the starboard side and forces the fish to swim into the two plywood bait tanks through two 2-foot square openings on the starboard side. For the loading operation, the doors to the openings are lifted. When the bait is in the tanks, the doors are closed.

Once the bait is in, the bait tanks are filled with water to capacity, which brings the fish to the top. The coamings to the bait tanks extend 42 inches above the deck. The fish can be delivered to the receiving boats through portable plywood chutes which are attached to openings in the coamings on the port side. These chutes are 12 inches wide and 8 inches deep, and are lowered to within a few inches of the receiving boat's bait tanks, so that the fish are transported without injury.

Plywood Construction Cut Labor Costs

The *Aquarius* has been operating seven days a week since being put into service early in May, and the owners report that she has come up to the designer's expectations. Virtually all of the boat is fir plywood construction, with double bottom and side planking and double thickness bulkheads. The builders estimate that the plywood construction cut labor costs one-third, and provided a stronger, more rigid hull.

The new bait boat has a beam of 15 feet, draws 6 feet, and her displacement is 30 tons gross. She is powered with a 225 hp. General Motors engine with 3:1 reduction, while a one-cylinder General Motors engine is used for auxiliary power.

The *Aquarius* has a 6 x 12 inch Douglas fir plywood keel with 6 x 12 inch oak stem and 8 x 12 inch oak stern post. Frames and deck beams are also Douglas fir.

Side and bottom planking consists of two layers of ⅝" exterior type fir plywood glued and fastened with Monel "Anchor Fast" nails. All fastenings were dipped in glue before they were secured. Bulkheads were built with fir plywood nailed and glued, and bait tanks were formed with a double thickness of ¾" fir plywood. Both ballast tanks and the bait tanks are surfaced with three layers of Fiberglas and resin. The two-foot square bait doors on the starboard side of the hull consist of ¼" steel framed in oak. Door openings are rabbeted into side planking.

BIRD'S EYE VIEW OF FISH TANKS on bait boat "Aquarius". The tanks are made of double thickness ¾-inch exterior type fir plywood, coated with resin and Fiberglas.

Weakfish Study Approved by Gulf Commission

Five-State marine fisheries organization names Grizzaffi chairman at meeting held in Louisiana

A PROGRAM of collecting and publishing all available scientific data on the weakfish family was instituted by a resolution of the Gulf States Marine Fisheries Commission, during its meeting October 18-19 in New Orleans, La. It was pointed out that there is a definite need for information which would aid conservationists in preserving the important speckled or spotted trout and the two species of white trout.

Latest figures show that commercial production of spotted or speckled trout is about 3.5 million pounds, while white trout landings amount to 1.5 million pounds annually. It is estimated that completion of the weakfish project will take at least six or eight months.

In another resolution, the Commission requested the allocation of additional funds to the U. S. Fish and Wildlife Service for the shrimp statistical program in the Gulf of Mexico.

Climaxing the two-day meeting was the naming of new officers. E. J. Grizzaffi, Morgan City, La., former vice-chairman, was selected as chairman, succeeding David C. Jones, Jr., Naples, Fla. William H. Drinkard, director of the Alabama Department of Conservation, was chosen vice-chairman. W. Dudley Gunn continues as secretary-treasurer.

The next meeting of the Commission was set for Austin, Tex., March 21-22.

The Commissioners from the five Gulf States were welcomed by Ernest S. Clements, director of the Louisiana Wild Life and Fisheries Commission. He outlined the importance of the fishing industry in Louisiana by pointing out that the State has annual production worth about $25 million from shrimp, $5 million from oysters, and utilizes "a lot of shell".

Officials of the Gulf States Marine Fisheries Commission, including from left to right: David C. Jones, Jr. of Naples, Fla., outgoing chairman who presided at the recent New Orleans meeting; E. J. Grizzaffi, Morgan City, La., new chairman; and W. Dudley Gunn, secretary-treasurer.

Reports by States

Characterizing almost all the State discussions were: 1. expansion of seafood resources through the planting of shells and artificial priming objects and by proper dredging; 2. protection of established oyster reefs, shrimp beds and fish habitats from hazards; 3. research and education programs through State-operated marine laboratories to study commercial fishing problems and to make recom-

(Continued on page 34)

One of the scientific papers delivered during the two-day meeting of the Gulf States Marine Fisheries Commission offers a subject for an exchange between: (from left to right) A. J. Harris, Jr., Assistant Attorney General, Alabama Department of Conservation; Gordon Gunter, director of the Gulf Coast Research Laboratory, Ocean Springs, Miss.; and Howard T. Lee, assistant director of the Texas Coastal Fisheries Division.

Discussing an oyster shell believed to be from 40 to 60 million years old are Robert M. Ingle, left, assistant director of the Florida Board of Conservation; and James N. McConnell, chief of the Louisiana Division of Oysters and Water Bottoms and Commercial Seafood. The shell was found in Arkadelphia, Ark.

Sharp Blade on Bow of Canadian Vessel Kills Sharks Successfully

RESPONDING to an urgent appeal from fishermen, the Canadian Department of Fisheries has devised effective means of coping with basking sharks which, in recent years, have become a growing menace to salmon fisheries along certain parts of the British Columbia coast. With the installation of a specially built razor-like ram on the bow of the Fisheries Protection Vessel *Comox Post*, a heavy toll of basking sharks has been taken in the Barkley Sound area recently. Thirty-one sharks were rammed in the vicinity of Bamfield in Barkley Sound in one day, according to "Trade News", published by the Canadian Department of Fisheries.

Damage to gill-nets and trolling gear from basking sharks has been a problem to fishermen for many years. Feeding on the same food as salmon, the big animals, some attaining 30 feet in length and 8,000 pounds in weight, frequent the same areas as salmon and are usually at greatest numbers in the height of sockeye salmon fishing.

Since no commercial use has yet been found for them, the presence of basking sharks in a salmon school is a fisherman's nightmare. When these creatures become snared in nets they do heavy damage, and easily may destroy hundreds of dollars worth of webbing in a few minutes. Trolling gear is equally vulnerable if hooks catch in the hides of the monsters. As many as 50 basking sharks may gather in an area where salmon are feeding, making it impossible for fishermen to risk putting out their nets.

Blade Is Hinged

The new shark ramming method is an improvement on a device tried in Rivers Inlet by a fishing company some years ago. The bow of the *Comox Post* is fitted with a five-foot curving blade of boiler plate steel, sharpened on the forward edge and hinged. When not in use it is carried in a closed position above the water line, after the style of a closed clasp-knife. In operation, the ram is lowered from the hinge by a cable so that its point and cutting edge is just beneath the surface of the water and facing upwards. Chain braces on either side of the bow keep the ram firmly in position.

When basking sharks are sighted the vessel is steered directly for the school. As this species normally floats close to the surface, individuals easily can be picked out and rammed. Besides reducing the number of sharks, the attacks break up and scatter the schools, making it reasonably safe for fishermen to operate in the immediate area.

In the majority of cases, the shark is caught square in the center and is killed instantly. The carcass sinks to the bottom, with only the liver floating to confirm the kill. The shark rarely sounds in time to escape the deadly blade.

Ranges from B. C. to Southern California

The basking shark's range includes the area from British Columbia to Southern California. It takes its whimsical name from a habit of drifting slowly along the sea surface as if basking in the sun. One basking shark which was killed recently weighed 8600 pounds. Its liver was 60 per cent oil, and weighed 2100 pounds.

The enormous size of basking sharks makes landing them difficult and sometimes dangerous. A blow from the massive tail can stave in a small boat. Fishermen have found whaling craft uneconomical in hunting the baskers.

These sharks also cruise northern European waters in schools of a score or more. Off the coasts of Ireland, Norway and Scotland, they are sought for their oil. Often they form an eerie procession with a female followed by several males—a sight that may account for Scotland's "Loch Ness Monster".

Side view of the knife-like ram on the bow of the Canadian vessel "Comox Post", which is used for killing basking sharks off British Columbia.

In search of plankton food, the basking sharks move at about two knots, with high dorsal fins protruding above the water. Their enormous mouths engulf thousands of minute marine organisms. An average-sized shark making such speed can filter over 2000 tons of sea water in an hour.

Rhode Island Fishermen Voice Opposition to Storm Barriers

At a meeting of shellfish dealers and fishermen in Warren last month, formal opposition was voiced to the proposed hurricane barrier plans, pending a detailed study of their possible threat to the shellfish industry.

F. Nelson Blount of the Blount Seafood Corp. viewed the plans of the Army Corps of Engineers for the lower and upper bay barriers with navigational openings as being far worse than the pollution problem. Mr. Blount feared that the barriers would make a "giant stagnant pond of the bay" which, if failing to kill off the quahaugs, would result in a pollution problem that would make them unmarketable.

Harold Gibbs, former State Fish and Game Division Chief, expressed the belief that a middle or lower bay barrier would change the salinity of the water, making it unfavorable for shellfish reproduction.

In other action at the session, the group voted to request the State Department of Health to investigate the possibility of opening additional areas to shellfishing in upper Narragansett Bay north of the present pollution line between Conimicut Light and Nayatt Point.

They discussed also the current quahaug transplanting program of the State Division of Fish and Game.

Praise Shellfish Law Enforcement Program

The U. S. Public Health Service, which only a few years ago threatened to take Rhode Island shellfish out of the interstate market, recently released a report rating shellfish controls in the State 100 percent effective. The report said that this State's enforcement program well could serve as a model for the entire industry.

Mentioned specifically were tighter laws against taking shellfish from polluted areas and the use of speed boats and modern radio communications equipment by enforcement officers.

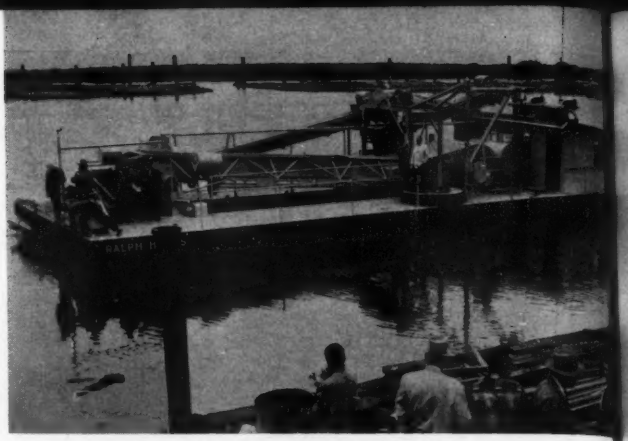
New Type Hydraulic Oyster Dredge "Ralph Hayes" Launched in California

COAST Oyster Company early last month launched its 70' x 24' hydraulic dredge *Ralph Hayes*, which will be used in the harvesting of oysters for its plant and cannery located in Eureka, Calif. The *Hayes* was constructed by the Eureka Boiler Works & Acme Foundry Co., and is said to be one of only two such hydraulic dredges in the world. The other is in operation for the Coast Oyster Co. in Willapa Harbor, Wash.

The barge, which is moved from place to place by a towboat, contains a 45-foot ladder which is lowered through a well in the center to the bottom of the bay and the oyster beds. The vessel is equipped with a 100 kw. Caterpillar Diesel electric set. The oysters are jetted by large streams of water onto a belt which brings them to the surface of the deck, where they are transferred to scows to be carried to the fresh oyster plant or cannery.

These streams of water are produced by two 21-inch diameter pumps which pump about 20,000 gallons of water per minute. However, despite the large amount of water being turned over, none of it comes to the surface but runs out through a special belt with one inch holes, which also permits the return of material smaller than oysters.

A 7 by 16 foot steel hood encloses the digging apparatus at the lower end, and this hood seals with the ground on all sides. The oysters are harvested in the following manner: As an area of the beds is momentarily brought under the open bottom of the hood, a seven-foot jet of water digs four or five inches of mud and oysters onto a three-foot wide web belt. Mud, sand and pieces of shell pass back through the holes in the belt, and the oysters are carried to the deck of the dredge.



The 70' hydraulic oyster dredge "Ralph Hayes", after she was sent off the ways into Humboldt Bay, following christening ceremonies at Eureka, Calif. The craft is owned by Coast Oyster Co., Eureka, and was built by Eureka Boiler Works & Acme Foundry Co.

R. H. Bailey of Seattle, Wash., is the inventor of the oyster harvester. As a result of the specialized process, only oysters and large pieces of shell are removed from the beds, the mud and sand being redeposited on the grounds where originally raised. This is necessary, since the beds require a layer of mud to hold the oysters.

Ralph Hayes, whose name the oyster dredge carries, has charge of the Coast Oyster Company's operation located at Poulsbo, Wash. He noted that the firm has exclusive rights to the hydraulic oyster dredgers, and anticipates that 10 or 15 of them soon will be licensed for use on the East Coast.

F. M. Douglas, manager of Coast Oyster Company's California holdings, stated that the largest natural catch of oyster seedlings in 20 years has been planted in Humboldt Bay. The catch of 38,000 strings of oyster shells, each six feet long, was made in Willapa Harbor, Wash.

Harry A. Trimm, Jr., chairman of the Fish Week Committee; Veronica Volpe, Pittsburgh Post Gazette; Murray Wheeler, Director of Public Relations, Fish Week Committee and National Fisheries Institute, sample Butterfish Amandine from the fishing industry's exhibit at the recent Newspaper Food Editors Conference in New York.

President Eisenhower Congratulates Industry on National Fish Week

The fishing industry has received President Eisenhower's congratulations on National Fish Week, scheduled for Oct. 29 to Nov. 3.

Said the President: "Every part of your industry contributes its share to the National Economy and to the nutritional well-being of our citizens. The combined work of fishermen, processors and distributors enables this country to enjoy the widest variety of fish and shellfish in the world. My congratulations go to you 87,000 commercial fishermen and to the fishing industry, which supplies the nation with more than 4½ billion pounds of seafood every year."

The nation's fisheries, in cooperation with the U. S. Fish and Wildlife Service, decided to observe a Fish Week at this time because fish catches are at their heaviest during the Summer and early Fall. A wide variety is available to consumer, and prices are down.

The fisheries are America's oldest industry. Today the total annual catch amounts to 4,600,000,000 pounds of fish and shellfish, worth $325,000,000 to the fishermen. The industry in turn has an investment of millions of dollars.

During National Fish Week, every large city had its local "Fish Parade". Restaurants served new fish dishes, chain stores and other groceries featured fishery "specials", and consumers learned interesting and delicious ways to prepare fish and shellfish. The U. S. Fish and Wildlife Service worked with cooking schools and with institutions which feed large numbers of people.

Massachusetts Has Most Clams in Ten Years

Use of plastic screen for fencing out soft-shell clam enemies has helped in producing significant commercial crop.

By Charles L. Wheeler*

THE soft-shell clam is now more abundant than it has been for over a decade in many places along the Massachusetts coast. Reproduction in 1954 and 1955 was so successful that many Boston Bay, North Shore, and Cape Cod flats which have been barren of soft clams for a long time, are now approaching their former condition of abundance. Since two or more strong year classes are included in the clam populations, a satisfactory size distribution would seem to insure a significant commercial crop for several years to come.

Evidence of the improved soft clam situation was shown by a resurvey of Boston Bay, conducted this Summer by the Woods Hole Oceanographic Institution under contract with the Massachusetts Division of Marine Fisheries. The research revealed that, compared with a similar survey made four years ago, soft clam concentrations from Winthrop to Hingham are definitely on the upturn, and quantities of seed clams are now to be found on beaches which bore very low numbers in 1952.

In retrospect, the late 1940's and early 1950's were lean years for those whose livelihood depended on the soft-clam fishery. The situation did, however, force man to study the intertidal shellfish problem with unusual care, and to come up with some new concepts respecting the increasing competition between himself and certain clam enemies for the dwindling clam resources.

Crabs and Boring Snails Are Main Enemies

In 1948, the Massachusetts Division of Marine Fisheries contracted with the Woods Hole Oceanographic Institution to investigate the soft clam problem in the Bay State and to determine, if possible, some of the major causes associated with the decline of the clam industry. Experimental plantings of clams in Barnstable Harbor indicated that such animals as the horseshoe crab and the boring snail were of primary importance as shellfish predators, and that working together they could decimate an unprotected clam bed in a matter of a few weeks.

The crabs were found to be especially troublesome in April and May when they moved in from deep water after a Winter of hibernation. The snails, on the other hand, did the most damage in late Summer when their young of the year were sufficiently developed to prey upon clams of a similar age.

By tagging and otherwise studying the movements and habits of the horseshoe crab, it was determined that direct control of this animal was impractical. By the same token, control of the boring snail also was ruled out, since the large individuals are difficult to collect in quantity by known means, and the swimming larvae of the species will reinfest an area following the hatching of the eggs in Midsummer. It remained for the biologists to provide for the protection of existing clam beds, and since the horseshoe crab had been revealed as the chief offender, it was decided to try a simple fence to exclude them.

The fencing experiments conducted in Barnstable Harbor in 1948 and 1949 turned out to be highly successful. The fence, which was only two feet high, kept nearly all of the crabs from entering the enclosure where several bushels of clams had been planted as bait. In order to conclusively prove the effectiveness of the method, a near-by plot of similar dimensions also was planted with clams, and very soon was reduced to a low level of abundance by the marauding horseshoe crabs.

Following their initial success at Barnstable, the biologists established a number of similar fenced clam plots elsewhere along the Massachusetts coast, and their effectiveness proved to be universal. It thus was demonstrated that clam predation by horseshoe crabs can be greatly reduced.

When the green crab increased to such a point as to become a menace to shellfish on the North Shore and in Maine, a modification of the fencing technique was applied and found to accomplish the desired results. By fencing off coves and other partially-enclosed areas, it was found possible to materially reduce construction costs, and in some instances a barrier only a few hundred feet long would prevent predator inroads on many acres of intertidal flats. This has been done in many areas in Maine where long, narrow coves are of common occurrence, and in the North Shore towns of Massachusetts where salt-marsh flats are fed by high-banked creeks which provide predators with their only means of access.

Left to right: Francis W. Sargent, Director of Marine Fisheries for the Massachusetts Conservation Department; Harry J. Turner, Jr., biologist of the Woods Hole Oceanographic Institution; and Charles L. Wheeler, State shellfish biologist, shown examining experimental clam beds at South Dartmouth, Mass. The beds were fenced with plastic screening in order to protect the young clams from predators such as the horseshoe crab and blue claw crabs, and to prevent the spat from washing away. The screening also helps in concentrating the spat in a given area to make possible more economical harvesting.

Plastic Screening Collects Small Clams

Another function of fence or screen material in the field of shellfish propagation was discovered through the combined efforts of the late Morgan Plummer of South Dartmouth, the Massachusetts Division of Marine Fisheries and the U. S. Fish and Wildlife Service's clam investigation group at Newburyport, Mass.

Mr. Plummer, who operated a commercial shellfish grant at South Dartmouth, had trouble with crabs eating small clams which set naturally on his leased grounds. In order to protect them he constructed screens of galvanized hardware cloth, with which he covered his small

(Continued on page 28)

*Division of Marine Fisheries, Massachusetts Department of Natural Resources.

Adson Casey - -

Great Lakes Fishing Is His Way of Life

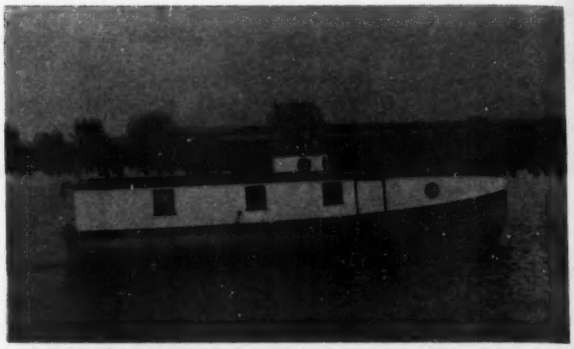
IT probably is not because he expects to grow wealthy from his way of life that Adson Casey is a commercial fisherman on the Great Lakes. Rather, it seems something else has drawn Casey to this occupation, a work that asks for long hours year-round, and is hazardous.

During the Summer Adson Casey fishes for chubs from the port of Cheboygan, Mich., with his 38' gill-netter *Rex*. In the Wintertime, he returns to his native Fairport and operates in and around Big Bay de Noc. He comes from a community of fishermen. His nephew works on the *Rex*, and draws wages according to the day's catch. His two brothers operate a gill-net tug year-round at Fairport. Many of his closest friends are fishermen.

In general, too, it can be said that Adson Casey reflects qualities found in his brother commercial fishermen. They must all be, by occupation, men who have little expectation that someone else is going to hoe their row for them. As a group, they have a reputation for personal independence, and the strength of their work is adequate answer to any who doubt this belief.

With a large commitment in his boat, nets and other equipment, and with much of his life and fortune involved in fishing, Adson Casey knows that for himself this is the best way of life. As long as fishing for species like chubs and herring continues to pay the freight, this is what he wants to do.

According to "Michigan Conservation", from which material for this article was excerpted, commercial fishing is good conservation; it's "wise use" of a renewable natural resource. Without it, a colorful chapter in Michigan's history would be lost, and the 27,000,000 pounds of fish taken annually from Michigan waters would be largely wasted.



Adson Casey of Cheboygan, Mich., and his 38' gill-netter "Rex", which is equipped with a 115 hp. Chrysler Crown engine, Crossley net lifter, Wood Freeman pilot, Bendix depth indicator, Shea Nylon chub nets and uses Gulf gas.

Connecticut Shell Fish Commission to Supervise Fill Dredging Operations

An agreement has been signed between the State of Connecticut's Shell Fish Commission and the dredging company digging fill for a new expressway off Sherwood Island in Westport. For the protection of the oyster beds in the vicinity, the Atlantic, Gulf and Pacific Co. of New York has agreed to five stipulations:

1. To pay for the cost of engineering services to be engaged by the Commission to supervise the dredging operations in the area.
2. That all soil dredged be used exclusively on property owned by the State.
3. That no material shall be dredged from any area within five hundred feet of any established oyster bed.
4. That the area to be used for stockpiling be adequately diked, and that such dikes be properly maintained for the duration of the work to be performed.
5. To provide a satisfactory settling area properly diked and maintained for the duration of the work to be performed.

The dredging program is underway, although two Norwalk oyster firms are attempting to have it halted by court injunctions. It is feared that silting from the digging will smother setting beds owned by the Norwalk oyster growers.

Commercial Set of Oysters Reported

There has been a commercial set of oysters on the Bridgeport-Stratford private beds in shoal water and at depths up to 30 feet. The set is described by one firm as light, late and spotty.

According to Dr. Victor L. Loosanoff, director of the Fish & Wildlife Service Laboratory in Milford, this set was spawned in August and September. The oystermen report the growth of the young animals as small for this time of year, and there has been considerable anxiety as to whether the oysters will be sizeable enough before cold weather sets in and feeding stops. Shifting is going on now, and while not many oyster farms received a set, the Long Island oystermen feel that the showing of last year's crop and this year's have been fairly good.

Plans for Trash Fish Plant Progressing

Plans for location of a trash fish plant in Stonington are going ahead, and at last reports, most of the major details had been completed. Operators of draggers in the fishing fleet are hopeful that all obstacles will be overcome, and that actual construction of the plant can be gotten underway in the very near future.

European Oysters Doing Well

An important experiment being carried on by the Milford laboratory of the Fish & Wildlife Service is the testing of growth and survival of European oysters, which are considered a delicacy for eating on the half shell. A considerable number of these oysters were suspended in Milford Harbor, and set for 1955 now has many individuals in excess of four inches, which is extremely rapid growth. Observations indicate that the Connecticut environment is well suited for the existence of European oysters.

Maine Lobstermen Seek Better Weather Forecasts

The Maine Lobstermen's Association last month planned to confer with U. S. Weather Bureau authorities about receiving their weather reports from sources nearer than Boston. They declared that weather reports originating from Boston had failed them recently.

The Association also proposed a series of legislative articles, which would provide for bounties on seals that are destroying baby lobsters; would make names as well as numbers legal identity for lobster traps; and would restrict fishing day lengths during the May to October period, with the possibility of banning Sunday lobstering.

At this meeting, officers re-elected were: Leslie Dyer, president; Farrell Lenfestey, first vice-president; Rodney Cushing, second vice-president; Clarence Lunt, secretary-treasurer; and A. Allan Grossman, executive secretary.

Stanley Tupper, Commissioner of the Maine Sea & Shore Fisheries Department, spoke at one session and recommended that a National organization similar to the Maine body should be set up to give the lobster industry representation in Washington.

The Maine Lobstermen's Association voted recently to use red and white pennants emblazoned with a boiled lobster, to be unfurled from the radio antennae of their lobster boats.

"Metacomet" Tests Mid-Water Trawl

The most recent cruise of the research vessel *Metacomet* was devoted to tests of three items of fishing gear and apparatus: (1) a modified lampara seine, (2) a small mid-water trawl and (3) an air pressure depth indicator. Testing was carried out in inshore waters between Portland and East Penobscot Bay from September 26 to October 12.

Indications are that mid-water trawls will be useful during the seasons of higher water temperatures only as a tool for sampling schools of small herring. The large catches reported taken with this gear in other areas have been made during Winter months.

The next cruise of the *Metacomet* will be devoted to purse seining operations to see if a purse seine can be set and successfully handled in open waters with a New England dragger type vessel, and to attempt to catch sardine size herring with this type of gear.

Invents New Method of Making Lobster Plugs

Leroy Grover, 64, a retired sardine carrier skipper of Cumberland Center, has invented a machine which cuts, counts and packages lobster plugs. Operated by a foot treadle, it cuts long quarter-inch-square strips of wood into 1½-inch pieces after Grover deftly sharpens the points with seven slices of a knife.

He inserts the sharpened end of the strip into the machine, and presses down on the pedal. The plug is cut off to the exact length. Plugs slide down a chute into a paper bag which holds 1,000 of them.

Seiners and Weirmen Plan Convention

The Maine Coastal Seiners and Weirmen's Assoc. is scheduled to hold its first annual convention and second business meeting in Rockland on December 8. Clinton Bowley of Boothbay Harbor, president, said possible new legislation affecting the industry would be discussed and new officers elected.

Boats Repowered and Overhauled

During the past season, four lobster boats owned by members of the Boothbay Region Fishermen's Co-op Assoc., have been repowered with 60 hp. Chris-Craft engines having 2:1 reduction gears. The boats operate out of Boothbay Harbor, and are owned by Laurence Durfee, Carlos McKown, Lester Davis and P. Willey.

NEW MAINE-BUILT OYSTER BOAT, owned by Capt. Frank Strauch, Jr. of Lindenhurst, N. Y. The 32-footer was constructed by Rockland Boat Shop, is Monel fastened, and is powered with 120 hp. Gray engine.

Story Shipyard of South Portland recently chipped and repainted the 136 ft. steel trawler *Medan*, owned by Fulham Bros. The sardine carrier *Surfman*, owned by Bath Canning Co. of Bath, has had portions of her covering board, deck, guard and rail replaced. The *Theresa R.*, owned by The Harris Co., had repairs on her shoe, keel and planking following a recent grounding.

The 102 ft. wooden dragger *Four*, owned by Lloyd Morey & Associates of Boston and skippered by Capt. John Cahill, has received extensive renovations at Sample's Shipyard in Boothbay Harbor. A completely new fish hold has been installed, and it has galvanized steel stanchions, cement floor and is lined with 22-gauge galvanized steel sheets. The vessel also has been fitted with a new steel engine trunk and new marine plywood deck house.

Sample also recently built a new steel-lined fish hold in the dragger *J. B. Junior*. The hull of this vessel, owned by John Bruno, Jr. of Boston, was thoroughly reconditioned.

The *John J. Nagle*, owned by F. J. O'Hara & Sons, Rockland, was at the Sample yard last month for shaft alignment.

Birds Eye Plant in Rockland to be Sold

Considerable interest has been shown within the seafoods industry over the announcement that the Birds Eye fillet plant, shipyard and fishing trawlers at Rockland will cease operations on November 15. At least three firms now engaged in packing fish products are reported to be interested in buying the Birds Eye facilities.

The latest proposal is by a Maine resident identified with an industry allied with fishing, who suggested forming a fisheries foundation to operate the Rockland firm. Three groups would be set up under his plan: one to operate the fleet of trawlers, another the shipyard, and a third the fillet plant and sales division.

Rockland City Manager Lloyd K. Allen points out that the Birds Eye operation limited its production to supplying General Foods sales demands, whereas another management could process several kinds of fish for many different marketers, and conceivably could run the plant for a much longer period each year. Birds Eye closed down its plant and tied up its nine trawler fleet several weeks every Winter.

Rockland Dredging Plan to Proceed

At a special public hearing last month in Rockland, it was voted to go ahead with the Rockland Harbor dredging project on a curtailed scale to fit available funds. It is hoped the work can begin inside of two months and be completed in seven to eight months.

The project will now be based on 100 foot channels the

Left to right: Capt. Sylvester Carter, owner of the "Martha Lee"; Frank Taves, owner of Taves Boat Yard; Capt. Arthur Duarte, owner of the "Yankee", with his dog "Skipper"; Capt. Charles Bennett, owner of the "Cormorant"; all of Provincetown, Mass.

same size as the two spur channels included in the plan. This will cut the Lermond Cove turning basin from a 650 foot length to 575 feet, and will cut down the channels as much as 100 feet in width off the Algin Corporation.

Unusual Lobsters Caught

Mrs. Dorothy Smith of Owls Head, a woman lobsterman, recently pulled from one of her 15 lobster traps at the head of the bay in Owls Head a lobster with an extra, unhinged claw extending from the left claw. Leslie Dyer, president of the Maine Lobstermen's Assoc., called the lobster "one in a million".

Another strange lobster was reported by Byron Gooch, Kennebunkport lobster dealer. The one he found was in his lobster pound, and was half red and half black, with the color line going directly through the center of the crustacean.

New Bedford Yellowtail and Haddock Bring High Prices

On October 29 some of the top prices of the year were bid for fish at the Pier 3 auction room, completely reversing a trend which set an extremely low earlier in the month.

Haddock sold for 20 cents a pound, a price not attained in several years, while prices for yellowtail jumped from 4 to 6 cents a pound on the 17th and 18th of October to 23 cents a pound.

Dealers said the depletion of surplus frozen stocks, cleaned out because of sparse landings, caused the price rise.

Vessels Affected by Haddock Ruling

The revised regulations requiring registration of fishing vessels landing more than 10 percent of haddock annually will affect about 25 percent of the New Bedford fishing fleet. The remainder of the fleet land less than the 10 percent of haddock, catching mostly the diversified flounder and cod species.

New Bedford vessels traditionally have used large-sized mesh nets, as they have found they can produce more marketable fish for each unit of effort with large-sized mesh than with small mesh nets.

Landings for September Increase

Fish and scallop landings in September exceeded those of the previous month and were higher than landings for the same period in 1955, according to figures compiled by the New Bedford office of the Fish & Wildlife Service.

Seventy-eight scallopers made 142 trips during September to land 1,291,900 lbs. of the shellfish. In September 1955, a total of 77 boats made 152 trips to bring in 1,230,500 lbs.

Fish landings this year during September included 376,600 lbs. cod; 1,109,100 lbs. haddock; 9,600 lbs. gray sole; 487,100 lbs. lemon sole; 1,874,700 lbs. yellowtail; 199,400 lbs. blackback; 45,300 lbs. dab and 99,100 lbs. fluke.

There were also 55 trips made by the trash fleet in September, landing 2,164,900 lbs. trash fish.

Shellfish Area Reopened to Dredgers

At a meeting last month of the City Council Committee on Shellfish, it was voted to reopen to power dredgers a triangular area extending from Butler Flats Light westerly to the New Bedford shore, from October 1 to June 15. This area was opened last year for the same period, with the approval of the State Dept. of Public Health.

It also was voted to recommend to the Council that Clarks Cove from Grit Street south be opened for the taking of scallops by those who hold regular scallop licenses, by obtaining a special permit. The season was limited from October 1 to December 31.

"Hilda" Sinks

The New Bedford fishing boat *Hilda* sank in Menemsha Creek after hitting two jetties on October 3. The craft was inbound for supplies when the mishap occurred.

Bay Scalloping Ends

In less than three weeks from the time the bay scallop season opened in the New Bedford area on October 1, waters were cleaned of the shellfish. The lack of planting seed scallops the last few years, the recent hurricanes and the infiltration of starfish which destroy the seed, are reasons for the poor season.

However, it is reported that prospects are bright for next year, with abundant seed scallop beds cropping up from Sconticut Neck, Fairhaven, to the Westport line.

Approve Plan for Hurricane Protection

A proposed $16,800,000 plan that would afford the Greater New Bedford Area with what engineers term "the greatest degree of protection" against hurricane tidal flood damage was unanimously approved at a public hearing recently. John F. Linehan, general manager of the Seafood Producers Assoc., asserted the plan will provide a harbor of refuge for the New Bedford fleet.

Scallops Served Food Editors

Scallops produced and packaged in New Bedford were featured at a luncheon given in New York by the New Bedford Seafood Producers Assoc. last month, for a group of food editors. The Association has been conducting a nation-wide campaign to emphasize new and different methods of preparing and serving scallops.

Virginia Oyster Season Off to Good Start

The first fourteen days of October showed Virginia getting off to a good start in shucked oyster production, with the output approximating 75,000 gallons in the Hampton Roads, Northern Neck and Eastern Shore areas.

Robert Billups, who operates an oyster shucking house at Williams Wharf in lower Mathews County and keeps four dredge boats busy getting up oysters from his private grounds, said that the shellfish are in fairly good condition for the time of year.

The public oyster rocks opened on October 1, with boats out by the hundreds in most areas. The Rappahannock River, which produces more marketable oysters than any other area, had more than 400 boats.

J. W. Ryland, Chief Inspector for the Commission of Fisheries, said that checks on public rocks throughout the area show evidence of a good season this year. A part of the public rock area is restricted to hand tongers, and a check showed that some of these tongers were averaging from 10 to 12 bushels.

Opposed to Widening of James River

William Ballard, president of the Ballard Fish & Oyster Co. of Norfolk, recently stated that any attempt to widen and dredge the channel from the James River Bridge to the Reserve Fleet would be detrimental to the oyster industry. Ballard said that the project, proposed by Richmond shipping interests, would affect 15,000 persons who make their livelihood by gathering oysters in the channel.

Market for Croakers Improves

During August and September there was a better market for large croakers, and a decline in the catches of smaller ones. Gill-netters made fair catches, and there were more Summer pounds out than usual. Bluefish were back in great numbers.

Crab prices stayed up for the two months, with the supply being spotty all season. Tangier Island was an exception to this, the catch remaining good there. Lower Mathews and Gloucester Counties up to the York River enjoyed the best season they ever had, but crabs began to thin out there in September, and were scarce in October. In the York River, watermen in October were catching 25 to 30 barrels per day, and getting $6 per barrel for them.

Menhaden Season Ends

Thirty Tangiermen, who have been fishing for menhaden in the Delaware Bay, Long Island Sound and along the coast of Massachusetts and Maine, returned to Virginia the end of October to get ready to sail for the oyster beds on the James River. Tongers reportedly are doing well taking seed oysters and oysters for the markets in Hampton, Newport News and Norfolk.

Fisheries Laboratory Has Exhibit at Fair

The State Fair had a 20 ft. booth this year, exhibiting a salt water aquarium from the Virginia Fisheries Laboratory. It contained sea bass, starfish, minnows, assorted crustaceans, oysters and other important inhabitants of the sea.

Crabs were shown in glass trays, as well as in the aquarium, and reproductions of a crab pot and an oyster rake were displayed.

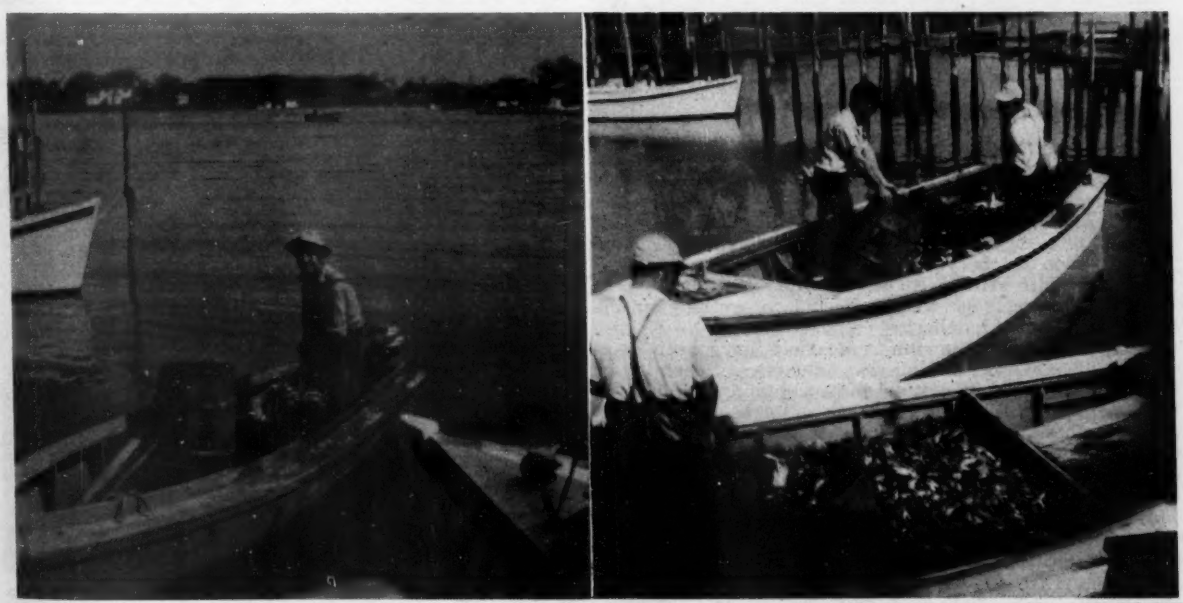
Hampton Roads Area Landings

The fish catch in the Hampton Roads area dropped to 1,623,100 lbs. in October, which was about half a million lbs. less than in September, and a decrease of nearly a million lbs. from October, 1955. The pound net landings were 500,000 lbs.

83-Year-Old Crabber Has 5 Grandson Crabbers

Capt. John White, one of the crabbers who sets pots in the Chesapeake Bay near Davis Creek, Va., has five grandson crabbers. The grandsons, and Capt. White, all unload their catches at the wharf of Charles Haywood, who is the father of the boys and Capt. White's son-in-law.

Capt. White has been a fisherman and crabber for 73 years, going out as helper in boats with his father at the age of 10 years. Although he retired from fishing six years ago, he still operates crab pots every day. His skiff is 17' long, has 5' beam and is 21" deep. Capt. White uses a 7½ hp. Johnson Sea-Horse outboard for power.



Capt. John White, left, one of the crabbers who brings his catch to Davis Creek, Va., is 83 years old, and has five grandson crabbers. His 17' skiff is powered by a 7½ hp. Johnson Sea-Horse outboard motor. At right, crab buyer Louis Jagger holds barrel for Paul Haywood, grandson of Capt. John White. Franklin Haywood, another grandson, is standing in boat in foreground. Paul Haywood's boat, a 21-footer, has a 25 hp. Evinrude outboard motor.

Oregon Surveys Indicate Good Chinook Salmon Escapements

Spawning ground surveys conducted on 12 eastern Oregon streams by Fish Commission biologists this Fall indicate that spring chinook salmon escapements were higher than average.

Six separate surveys were made on index plots on the various streams. More than 80 miles of what are considered the best salmon producing areas in eastern Oregon were covered on foot by the biologists.

T. R. Merrell, acting head of Columbia River investigations for the Commission, said there has been an upward trend in spring chinook spawning escapements since 1948, when annual surveys were begun.

The surveys provide only a comparative index to salmon escapement rather than a total count of spawning salmon in all of the streams. Different fins were removed from spawned fish during each survey to avoid duplication in following surveys.

Bad Weather Hampers Albacore Boats

Astoria's most successful offshore albacore tuna fishing since the 1940's ended abruptly in late September, when a price dispute and adverse weather conditions combined to knock out the fleet. For more than a month, Astoria fishermen had fished the albacore off the Oregon coast. First sightings came off the California coast, and then the schools headed toward an area near the mouth of the Columbia.

At the peak of the fishing some 100 craft were docked in Astoria and fishing the surprise run. Local canners attempted to purchase and process the tuna as fast as they were landed. Warehouse space was rented to house the fish until the canneries could process them.

Westerly winds and rain squalls in late September worked to the disadvantage of the tuna boats. As late as the first week in October, only 15 or so boats out of a fleet estimated at between 250 to 300 craft, were fishing the tuna grounds.

T. F. Sandoz, president of Columbia River Packers Assoc., told officials at a recent public meeting following the price dispute, that Astoria canneries want all the fish they can get. He further stated that it is vital to a tuna processor to keep his brand on the market and to have a certain supply of fish in order to do so. Sandoz emphasized the fact that his firm intends to increase the production of tuna, believing that the key to the problem is market promotion.

Chinook Salmon Egg-Takes

Close to 13,000,000 spring and fall chinook salmon eggs have been collected at 12 Fish Commission hatcheries this Fall. Approximately 4,100,000 fall chinook eggs, the highest total for a single station, were taken at the Bonneville salmon hatchery. The second highest egg-take was on the Middle Willamette River, where 2,500,000 spring chinook salmon eggs were collected for rearing at the Oakridge salmon hatchery.

Chinook salmon spawning operations have been completed at most Fish Commission hatcheries. Spawning of silver salmon is just getting underway and should be in full swing in the next few weeks.

Close to 600,000 steelhead, raised at the Marion Forks hatchery, were released into the North Santiam River. Young silver salmon releases of 215,000 in the Alsea River, 44,000 in the Sandy River, and 41,000 fish in the Nehalem River, also were made by the Fish Commission last month.

Studying Razor Clam Growth

Annual sampling of Clatsop County beaches to gain information on the success of razor clam spawning was initiated recently, according to Robert J. Ayers, biologist stationed at Astoria. The clam sampling will continue until the first of the year.

The samples are obtained during low tides at 13 stations between the mouth of the Columbia River and Seaside, by sifting sand through small-mesh window screening. Nearly 700 razor clams with numbers inscribed upon the shells were planted on the beach in May to gain information on clam growth at different tide levels.

Ayers said he has received reports accounting for 27 marked clams taken by personal-use diggers. An additional 17 marked clams have been dug intentionally by Ayers to establish the growth pattern to date.

Gill-net Season Slow

Early season activity in gill-net fishing operations was reported as at "slow bell" along the Astoria waterfront during October. Indications were that in the first two weeks of the season most lower river fishermen were staying in. Most fish caught in the season's early days were silverside salmon.

Commercial Fishing Closures in Rivers

Commercial fishing in the Nehalem, Yaquina, Alsea, Siuslaw and Coquille Rivers ended October 15 for a 16-day period. Commercial fishing in these streams will resume November 1 and continue to November 11, with the Nehalem River being open until November 20.

Sand Lake and the Kilchis River will be open from November 1-30 also to permit harvest of chum salmon. The Tillamook Bay season, now open, will extend until December 10.

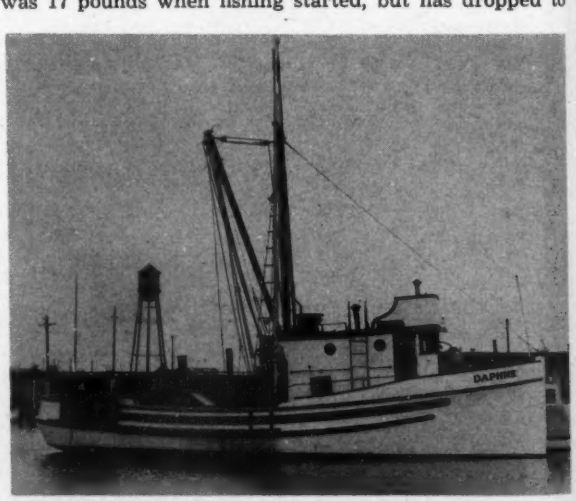
Commercial catches of silver salmon in coastal streams have been slightly above parent run catches in 1953, except in the Coquille River, where less gear is being fished this year.

Biologist Sampling Albacore Catches

With the return of commercial quantities of albacore tuna to the Oregon coast this year, Ed. K. Holmberg, Oregon Fish Commission albacore biologist, is sampling albacore catches daily and is interviewing boat skippers to obtain all the available information he can on tuna.

About 1500 tuna will be sampled this Fall to determine the size make-up of local catches. Holmberg also is taking scale samples and cutting the tails of the first 20 fish in each sample to obtain the 33rd vertebra used in aging albacore. The tails are boiled to obtain the vertebra for close examination. Growth rings on the vertebra reveal the age of the fish.

The size of albacore taken off Oregon this year has steadily decreased. Holmberg said the average weight was 17 pounds when fishing started, but has dropped to



The 48' "Daphne" is owned by her skipper, Capt. Howard E. Haataja of Astoria, Ore., and is used for dragging and tuna fishing. Her equipment includes 165 hp. General Motors Diesel, Roebling wire rope, Pauls nets, Northill anchor, Apelco direction finder and Wood Freeman automatic pilot. She uses Mobil fuel and lubricating oil.

12 pounds. Largest albacore seen by Holmberg was a 45-pounder. Even 30-pound fish are scarce in Oregon catches.

Columbia River Fish Migration Study

Field work on the first phase of a study of fish migration between Bonneville and McNary Dams was completed recently, according to T. R. Merrell, Oregon Fish Commission biologist in charge of the investigation.

During the past three months, biologists tagged close to 9,000 salmonid fishes at the forebay exit of the Washington shore fishway at Bonneville Dam. A fraction of the fish moving through the fishway were captured in a floating trap, "branded" with plastic Peterson discs, and released to continue upstream. At McNary Dam, another crew of biologists was on hand to recapture tagged fish in a similar trap, thus revealing the migration rate of the tagged fish between the two dams.

A careful check of figures obtained this Summer will have to be made before average migration rates for the various species of fish can be disclosed. This year's field work will establish average migration rates with little or no influence from The Dalles Dam, now under construction. Next Summer, when the dam completely blocks the Columbia River, fish again will be tagged at Bonneville and recorded at McNary to assess any changes in their migration rate assumed to be caused by The Dalles Dam.

Washington Fishermen Want Bounty on Dogfish

Senator Warren G. Magnuson called a meeting at Everett in October of commercial fishermen, fisheries by-product operators and Washington sport leaders to discuss the possibility of obtaining a Federal subsidy for the control of predator dogfish.

By-product operators stated that for several years they had purchased all the dogfish they could get from fishermen, but that due to a drop in the price of vitamin oils, the fishermen had quit trying to catch the predators. It was generally agreed that some program of control should be instituted, such as that followed by Canada, where fishermen are paid a bounty of $10 a ton on dogfish.

It also was shown that an increase of desirable fish occurred when dogfish were heavily eliminated. Washington fishermen pledged themselves to extra effort to eliminate the dogfish if a bounty program were instituted.

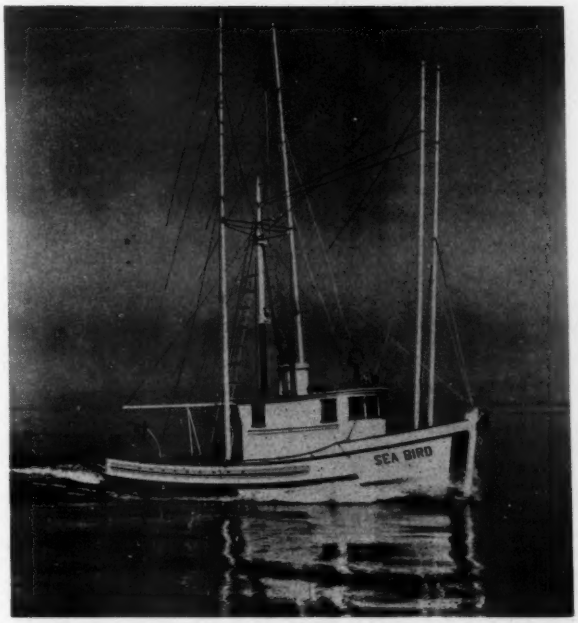
Predator lamprey eel control in the Columbia River also came up for discussion. A large number of representatives from the State's fishing industry attended the meeting, and Senator Magnuson's committee will be asked to give serious study to the matter during the 85th Congress.

Laboratory Gets Grant for Seafood Research

The American Can Co. has announced an allocation of $10,000 for its 1956 research grant to the Northwest Laboratory of the National Canners Association in Seattle. R. C. Stolk, West Coast vice-president of American Can Company, said that this year's grant brings to more than $220,000 the amount his firm has donated to the Northwest Laboratory since American Can first began to assist the research organization in 1934.

The Northwest Laboratory is an industry-wide research center which carries out scientific tests for Alaska, Oregon and Washington canners of salmon and other seafoods, while at the same time serving as a central quality control and inspection center under the industry's "better salmon control plan".

Stolk said that American Can Company's 1956 grant-in-aid comes at a time when the National Canners Association has just purchased a new building in Seattle, to consolidate its local offices and laboratories at one central location.



The 40' "Sea Bird", salmon troller owned and operated by Alfred and Barney Chevalier, a father-son combination of Friday Harbor, Wash., was repowered this year by a 4-51 GM Detroit Diesel. The engine, installed by Evans Engine and Equipment Co. of Seattle, increased the craft's cruising range and gave her a speed of eight knots, which was an increase of one knot.

Search for Tuna Troller Abandoned

Search for the *Doris J.*, a tuna troller out of Ilwaco, Wash., was abandoned recently by the Coast Guard when the *Yocona*, based at Astoria, returned to port without sighting the craft.

The *Doris J.* left for the tuna fishing grounds on September 2. Last word from the vessel, which is skippered by Harvey Reese, Long Beach, Wash., and has as boat-puller Walter Jennings, Longview, was that she was off Heceta Head and had taken 80 albacore tuna in the first day on the grounds.

Silver Salmon Landings Increase

Commercial landings of silver salmon by net gear on Puget Sound were a third larger this season than last—and 12 per cent above the 20-year average. The Washington State Department of Fisheries reports that 550,000 silver salmon, worth more than $1,600,000, were caught. This compares with 416,000 fish taken in 1955 and a 20-year average of 489,000.

Current heavy rains were expected to increase the production of chum salmon on Puget Sound.

"John N. Cobb" Hampered by Storms

The *John N. Cobb* reported on October 22 that in between storms, she had managed to complete 14 exploratory otter trawl drags off Southeastern Alaska. Most promising ground found was reported about 10 to 20 miles southwest on Helm Point on Coronation Island. One drag in this area in 130-139 fathoms produced a total catch of 4,700 lbs., including 800 lbs. large Pacific Ocean perch, 1300 lbs. other rockfish and 100 lbs. Dover sole. Two previous drags in shallower water of 112-121 fathoms caught a total of 9,500 lbs., mostly turbot and pollock.

As was expected, quite a bit of bad bottom was found even in the best looking areas. One complete net and a trawl door were lost in Dixon Entrance, and several other drags were hung up.

Yonker Named Manager of Seattle Laboratory

Walter Yonker has been named manager and chief examiner of the National Canners Association Northwest

Branch Laboratory at Seattle, and Dr. Ivor G. Jones has been appointed assistant manager and chief chemist. The appointments were made following the retirement of Dr. Ernest D. Clark after 37 years as director of the branch.

Operation of the Better Salmon Control Plan is one of the principal functions of the Northwest Branch Laboratory, and both of the new appointees are thoroughly grounded in the policies and techniques of this operation. Mr. Yonker has been in charge of canned seafood inspection at Seattle since 1953.

Seattle Otter Trawl Landings Show Gain

The 1,643,500-pound landings of the Seattle otter trawl fleet during October represented an increase of half a million pounds over the same month of last year and a gain of 167,000 lbs. over September, 1956. Sablefish led all varieties, with 551,400 lbs., which was nearly 500,000 lbs. higher than in October, 1955.

Totalling 1,171,300 lbs., October production by halibut fleet was 261,000 lbs. more than in same month of 1955, but showed a drop of over 2 million pounds from September of this year. The actual halibut catch this October amounted only to 211,100 lbs., with other species, including sablefish, making up the bulk of the landings.

Edward E. Willkie

Edward E. Willkie, 59, president of Pacific American Fisheries, died of a heart attack at his home in Bellingham on October 15. Mr. Willkie was 1954 president of the National Canners Association, and was widely known and deeply respected for a lifetime of outstanding service to the Association and the industry.

California Sardine Season Opens with Good Catches

San Pedro's sardine and mackerel fleet opened its season eight days late on October 8, following final settlement of a new contract on sardine and mackerel prices, to run through the season. Despite the late start, several unusually good catches by October 17 put the fleet far ahead of its 1955 mark, by the time the first fishing period ended.

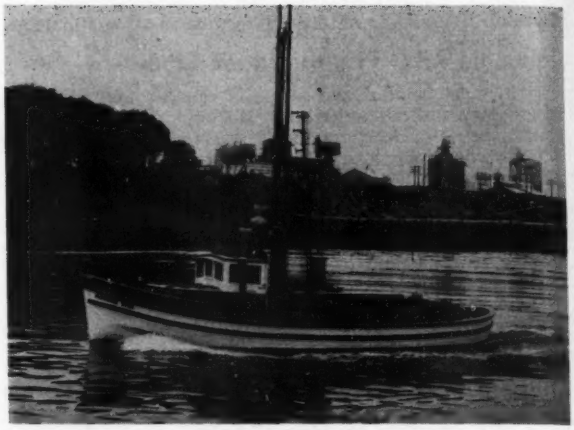
All seven Terminal Island canneries agreed on October 7 to a contract calling for a straight price of $47.50 a ton for sardines, plus acceptance of up to 25,000 tons of mackerel during the season.

Fishing got off to a fair start with 1500 tons caught the first night, and catches remaining about 1000 to 1500 tons, except for October 12, when 3000 tons were landed. On the 17th, 75 boats brought in a total of approximately 6200 tons, the heaviest single night's catch since October 5, 1951, when 160 boats unloaded 8500 tons at San Pedro.

The purse seiner *Sea Scout*, Capt. Andy Rafkin of San Pedro, set what is believed to be a record for a single boat catch, bringing in 215 tons. During the night a total of 26 boats landed at least 100 tons each, also believed to be a new mark for the number of boats bringing that much in during a night.

Boats that landed the 100 tons or more and their skippers include *City of Naples*, Frank Amalfitano; *Miss Universe*, Jerry Thomas; *St. George II*, T. Vuoso; *Star of San Pedro*, Nick Trutanich; *Santa Maria*, A. D. Bernardo; *Sharon B.*, Matt Bodul; *Seven Seas*, Elmer Duzich; *Sea Scout*, Andy Rafkin; *Sea Ranger*, Milan Zar; *Sea Pride*, John Rezich; *Western Monarch*, John Zankich; *Zephyr*, Anthony Burich; *New Marttimo*, G. Spadaro; *Star of Monterey*, John Russo; *St. Angis II*, J. J. Califano; *St. Raffaele*, A. DiAmbro; *American Boy*, Krist Gradis; *Courageous*, Andrew Kuljis; *North Queen*, Andy Xitco; *Southland*, Pete Andrich; *Stella Maris*, George Fukuzaki; *Santa Anna*, Sam Grades; *Western Sky*, August Felando; *Sea Maid*, A. Pilato; *City of Seattle*, C. Conrad, and *Tacoma*, C. DiMassa.

The total catch of the sardine purse-seine fleet in Southern California through October 19 totaled 23,000 short tons, a considerable gain over the 6,750 tons landed as of the same date in 1955. However, fishing out of San Pedro in 1955 did not start until November 7.



.32' Monterey Clipper "Morning Star", owned by Joe DiNapoli of Sun Garden Packing Co., San Jose, Calif. She is equipped with 90 hp. Hercules engine, Wood Freeman automatic pilot, 4 spool Kolstrand gurdies and ¾" Jabsco pump.

Both the fishermen and the canners seem to be satisfied with the ex-vessel price of $47.50 a ton, and canners are willing to take all the sardines landed. Market conditions appear favorable for the canned sardine pack, and present indications are that the catch for the 1956/57 fishing season may equal or exceed the 73,000 tons caught in the 1955/56 season.

Fishing Boats Change Hands

Jim Barbeau, after 34 years as a Navy chief, started a new life recently when he purchased the 50-ft. twin screw, former Coast Guard cutter *Luwella*. Wesley Schieffelry and Almon Wyatt have bought the 45 ft. troller *Wanderer* from Ray Hoenk. The new owners are outfitting the boat at Moss Landing, and will take her up the Sacramento River to their home in Modesto.

Albacore Fleet Has Good Season

The albacore fishing fleet thinned out considerably during the month of October as cold water moved in, the aftermath of several storms. The area 40 to 100 miles off Monterey and Moss Landing, which had been so productive during September, yielded only scattered fish.

Many boats moved south off Point Arguello and around the Santa Barbara Islands, seeking a late season bonus. Other boats with a successful season behind them tied up for the Winter.

Over-all, the year was considered successful. Refrigeration, major overhauls and the changing of smaller boats for larger ones, were among plans made by fishermen, whose accounts were well in the black.

Monterey fishermen, including those from Moss Landing, caught 1,550 tons of albacore during September. With large schools of albacore staying close to shore because of a warm current during that month, the catch was nearly five times as heavy as that for the same period last year.

Also brought into Monterey were 182 tons of anchovies, 397 tons of mackerel and 517 tons of squid. Local fishermen did not catch any sardines to speak of during the month. Only 62 tons have been caught since January 1.

Dredging Moss Landing Channel

The *Pacific*, 225 ft. dredge of the U. S. Army Corps of Engineers, is dredging the channel at Moss Landing. It will be made 17 ft. deep, thus guaranteeing safe entrance to the harbor, and providing Moss Landing with an open port the year around. Each year more and more fishing boats are using the harbor as a base for their operations.

Sardine Pack Gains

California sardine packers by October 23 had received 23,180 tons of raw fish—the equivalent of about 510,000 cases. By the same time last season, about 180,000 cases had been run.

Part of the big increase in production this year is due to the fact that the Southern District was inactive last year because the fishermen had not agreed to a price for their catch, and a cannery workers' strike was tying up 85% of canning capacity in Southern California.

Deep-Sea Fish Being Photographed

Types of sea life as yet unidentified have been photographed by a camera dropped 13,000 feet into the sea, a Navy oceanographer recently reported.

Unidentified deep-sea life and vast fish beds were photographed on the sea bottom 200 to 300 miles off the Southern California coast. The camera takes pictures automatically when bumped on the bottom, and is lowered into the sea on a cable.

Silver Salmon Taken in Sacramento River

Possibly the first adult silver salmon ever taken in the Sacramento River has been trapped at California's Department of Fish & Game tagging station at Fremont Weir near Knights Landing. Biologists feel certain that the 16.7-inch fish was the first return from some 60,000 yearling silvers planted in Mill Creek last Spring.

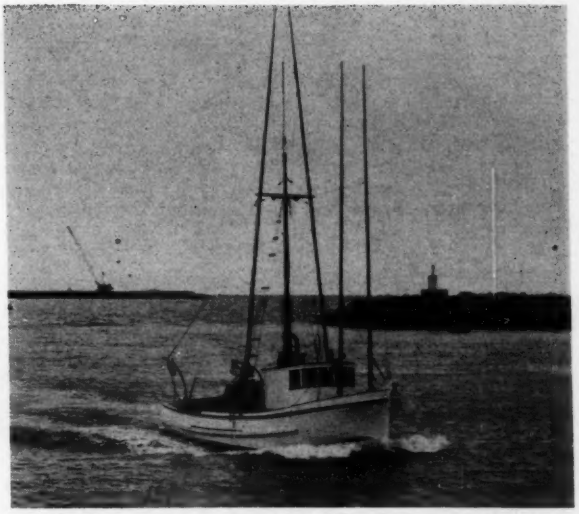
The experimental plant of silvers was made in the hope that a run of silvers could be established in the Sacramento system. The fish enter coastal streams both north and south of the Golden Gate, but never have entered the Sacramento River system before.

Fish Salvage Facility Completed

The U. S. Bureau of Reclamation's $1,000,000 installation for protecting salmon and striped bass at the Delta-Mendota Canal intake near Tracy, Calif. has been completed. It is the largest of its kind in the world and was developed after two years of experimenting with various methods aimed at protecting fish life.

The Tracy fish salvage facility is a unique method of collecting fish and by-passing them around the Tracy pumping plant to prevent their destruction and to avoid damage to the pumping system. Salmon and striped bass during their spawning runs will benefit principally, but other species will benefit also.

The 46' shrimper "Elizabell", owned by Alvin C. Dickey of St. Marys, Ga., and powered with 110 hp. General Motors Diesel with 2:1 Twin Disc reduction gear and 30 x 18 Columbian propeller. She is finished with International paint, uses Esso lubricating oil and is equipped with Surrette batteries, Wickwire wire rope, Stroudsburg hoist, Danforth anchor, and Apelco radiotelephone.



The 36' "Lucena", owned by Marvin Miller and Kenneth Kellis of Crescent City, Calif., and used for salmon, crab and tuna fishing. She is equipped with 85 hp. General Motors Diesel with 3:1 Twin Disc reduction gear and 32 x 24 Columbian propeller; Mustad hooks, Raytheon "Fathometer" Jr., Wood Freeman automatic pilot, Kaar radiotelephone and direction finder.

Georgia Shrimp Catches Increase

Landings of fish and shellfish at Georgia ports during August amounted to 2.1 million pounds. Shrimp and hard crabs made up 97 percent of the total production.

The average trawler shrimp catch of 100 pounds per day increased during the latter part of the month, when catches of 300 pounds per day were not uncommon. White shrimp landings, consisting of about 5 percent of the total shrimp production during the first week of August, increased and were averaging about 95 percent of the total shrimp catch during the last week of the month. Vessels from the northeast Florida coast continued to operate in Georgia waters in increasing numbers.

SeaPak Constructing New Freezing Tunnel

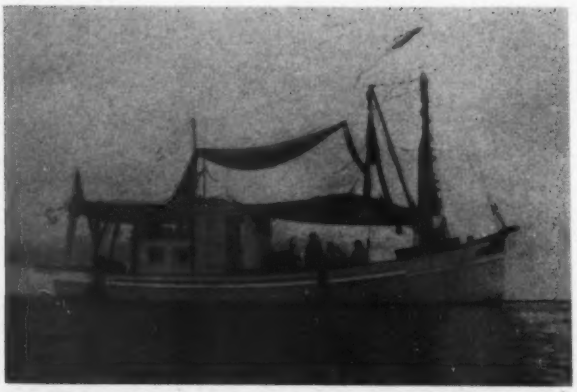
SeaPak Corporation of St. Simons Island, Ga., is now constructing a new flash-freezing tunnel which will allow the company to process a far greater volume in both shrimp and fish.

At the annual stockholders' meeting, the following officers were elected: Benjamin O. Johnson, president; Thomas B. Pearce, Jr., executive vice-president and treasurer; J. Roy Duggan, vice-president; Gordon M. Curtis, Jr., vice-president; James J. Meadows, vice-president; and Jack Joyce, assistant secretary.

Record Fish Catch Expected in 1956

United States fishermen are expected to take more than five billion pounds of fish in 1956, and set an all-time National record. Fish and Wildlife records indicate that the total landings are running nearly half a billion pounds ahead of those of last year and well ahead of the landings on September 1, 1941, the record year, in which a total of 4,900,000,000 pounds of fish were produced.

Menhaden, which usually accounts for about 40 percent of the catch, is setting the pace with an increase of 200 million pounds. Other species which have been taken in considerably greater volume than in 1955 are: tuna, up 60 million pounds; Alaska salmon, up 50 million; Alaska herring, up 39 million; California sardines, up 28 million; Maine sardines, up 26 million; Pacific jack mackerel, up 23 million; Pacific mackerel, up 9 million; ocean perch, up 6 million; haddock, up 10 million; halibut, up 7 million.



The "Della", 50' shrimper owned by Emile J. Bowers of Empire, La. She uses Shell fuel oil, and is equipped with 110 hp. Allis-Chalmers Diesel with 2:1 Twin Disc reduction gear, 36 x 20 Coolidge propeller, Stroudsburg hoist, Northill anchor, and Bendix depth sounder.

Louisiana Oyster Beds Damaged by Hurricane

Preliminary surveys indicate that hurricane Flossy caused severe damage to the oyster industry in Louisiana, according to James N. McConnell, chief of the Division of Oysters, Water Bottoms and Seafood. McConnell said it is still too early to make an approximate estimate of the damage, although the industry appears to have been "extremely hard hit."

He revealed that after surveys of the oyster producing areas east of the Mississippi River and the Barataria section below Lafitte, "it was found that a great amount of damage had been done to the oyster beds." The grounds are covered with both grass and silt, and heavy damage also was done to the oyster boats.

New Shipyard Being Established

A new shipyard known as the Triple C Shipyard, Inc., is being established at Morgan City. Work has begun on the construction of a set of marine ways which will accommodate boats up to about 150 feet in length.

An office building and a machine shop will be located in the rear, and it is expected that the shipyard will be in operation within the next five or six months.

Officers of the new firm are Charles Cloutier, president; and Errol Cloutier, secretary-treasurer.

Rogers Diesel Named Nordberg Distributor

Appointment of Rogers Diesel Engineering Co., Inc., New Orleans, as distributor of Nordberg gasoline engines and Power Chief Diesels in Louisiana, Mississippi and Alabama, has been announced. Sidney F. Rogers is president of the firm.

The Rogers shop is located on the Harvey Canal, where they have 150 foot dockage for serving the marine trade. They specialize in engine repairs, and offer complete fuel injection service.

Shrimp Statistical Program

As part of the current research program on shrimp resources, Dunbar Delaune, port manager for the branch office of the Fish & Wildlife Service at Morgan City, checks daily in the early morning to see if trawlers have arrived so that he can interview the captains on the results of their fishing trip. He also checks with each seafood plant in Morgan City, Berwick and Patterson to obtain figures on amount of shrimp handled, as well as quantities of buffalo, catfish, gaspergou, mullet, hard crabs and crab meat.

Captains on shrimp trawlers are interviewed as to where they made their catches, in how many fathoms of water, size and species of shrimp, etc. Once a month Delaune goes to Cameron and also to Delcambre to obtain information on those fishing centers.

New York Fluke Tagging Expected To Reveal Data on Migrations

During the month of June, 1956, a total of 926 otter-trawl caught fluke were marked with Petersen tags and released in Great South Bay. The purpose of this program was to gain further knowledge of the fishing intensity, fluctuations in availability, and the local movements, as well as the seasonal migrations of fluke.

Recaptures as of the 14th of September numbered 204, all by hook-and-line fishermen, a return of 22%, which indicates that for the present year the intensity of the sport fishery has been at a high level. Previous tagging program results in the 1940's indicated fishing pressures of similar intensity.

Trawling operations in the latter part of August indicate a change in the nature of the population size composition present in the bay. While 10% of the June-tagged fluke were 15 inches in length or greater, samples of the population in late August demonstrated that 26% of the population was in this size range.

Fish and Shellfish Landings

Landings of fish and shellfish in the Marine District of New York during July amounted to 3.1 million pounds valued at $636,000 to the fishermen. Scup or porgy accounted for 32 percent of the volume, but only 8 percent of the value. Other leading items were fluke, hard clams and sea scallops.

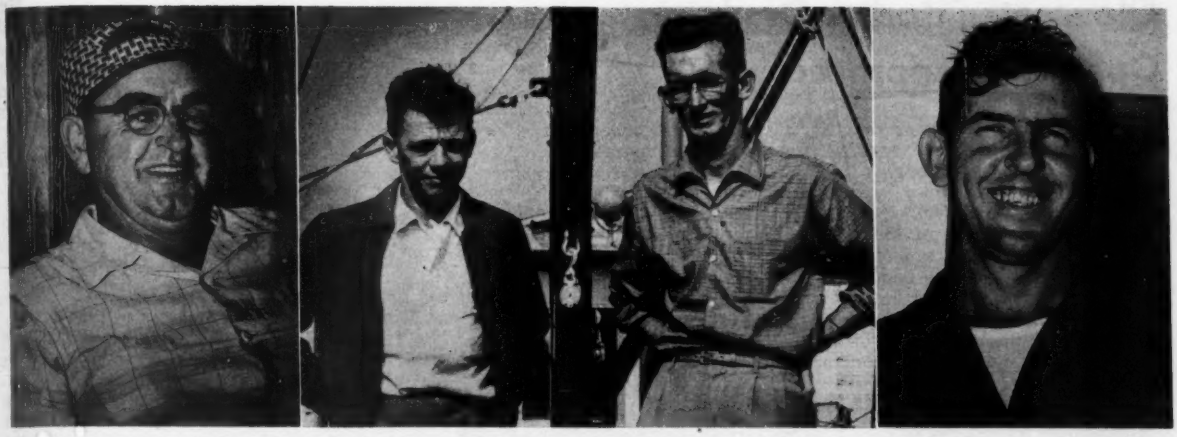
Still Tonging Clams at 81

Capt. William H. Munkelwitz of Sayville was honored last month as a 50-year member of the Masons. He became a bayman as a youth and worked with his father until he took a job with the firm of Ockers and Westerbeke, which raised and shipped Blue Point oysters all over the country.

When the Blue Points became scarce, the firm sought to replenish its supply from New Jersey and Delaware companies. Capt. Munkelwitz was sent there to select and purchase bivalves. He served in this capacity until his retirement after 23 years with the firm.

Capt. Munkelwitz still follows the bay, and with his brother Ernest A., tongs clams for daily shipment to the Fulton Street Market. He is still active in spite of his 81 years.

Shad fishermen bring aboard their catch in New York's Hudson River, under the lee of the skyscrapers. The fishermen's boat is powered with a 7.5 hp. Evinrude Fleetwin outboard motor.



OWNERS OF NEW HATTERAS TRAWLERS, built by Morehead City (N.C.) Shipbuilding Corp., are: Capt. W. G. Gillikin of Marshallberg, N. C., left, who has the 55' "Edna Carolyn"; R. B. Leland and A. C. Stroman, Jr., center, of McClellansville, S. C., who recently took delivery of the 55' "Aldebaran"; and Julian Lewis, right, of Sneads Ferry, N. C., who owns the 60' "L and M" with Kenneth Meadows of Swansboro. "Edna Carolyn" and "Aldebaran" are powered with 6-71 General Motors Diesels, "L and M" has 262 hp. Cummins NTO-6-M Diesel.

North Carolina Man Marketing Corned Mackerel, Mullet

Lester Gaskill of Sea Level, a long-time commercial fisherman, has embarked on a sort of one-man project he hopes will bring fortune to himself and others in the fishing business along North Carolina's coast. He recently has placed on the market two new brands of corned mackerel and corned mullet, and is hopeful that his business will spread throughout the State.

A special kind of brine has been brewed by Mr. Gaskill, and in this salty substance he packs fillets of mackerel and mullet. The fish are packed in three and five-pound glass jars.

Most of the mullet and mackerel now are sold on what is known as the daily fresh market. When extra large catches of them are landed, the price drops and the fishermen get very little for their fish. If the new method of preserving the mullet and mackerel became popular, it would mean a much better market for the fishermen.

Landings Double in August

Landings of commercially-caught fish and shellfish at North Carolina ports during August were more than double the amount caught in August 1955. Twelve million pounds of fish were landed during the month, with Carteret leading all counties with nearly 5,000,000 pounds.

Menhaden was the number one catch for the county, with over 3½ million pounds landed during the month. Shrimp led shellfish catches both in the county and in the State.

The main reason for the increase in landings this August as compared with last year was the fact that this year the weather was good, whereas last August there were several storms.

Building Cold Storage Plant for Seafood

Clayton Fulcher, Jr. of Atlantic is building a cold storage facility that will have a capacity of storing and freezing up to 750,000 pounds of seafood. Mr. Fulcher hopes his cold storage plant will enable him to spread out seasonal catches of seafood over a much longer period, and thus permit him to supply the market at times when fish, shrimp, oysters, clams and other seafood are in short supply.

Record Shrimp Catches

Catches of shrimp the second week of October were better than any week so far, according to reports from shrimpers and dealers. One trawler came in on a Wednesday with 1,800 lbs. and again on Saturday with another 1,800. The boats were working in Neuse River.

Catches of spot were large last month also. Quite a few were taken at Atlantic, and catches in long haul nets and beach seines were large.

Naf Named Manager of Morehead Yard

J. E. Naf, who has been sales manager of the Morehead City (N. C.) Shipbuilding Corp., has taken over as general manager of the company. His appointment was announced by President R. C. Kirchofer of the shipyard, which produces the well-known Hatteras Trawlers. He said that in addition to serving as general manager, Naf will continue to supervise the firm's sales staff.

"Johnny" Naf, a Californian who moved to North Carolina several years ago, has become widely known along the Atlantic Coast in his position as sales manager and before that as the Southern sales representative of the Morehead City Shipbuilding Corp.

Mississippi-Based Research Vessel Long-Lining for Yellowfin Tuna

The Fish & Wildlife Service research vessel *Oregon* was scheduled to leave Pascagoula on November 14, to carry out four weeks of production-fishing for yellowfin tuna, using long-line gear. The cruise will be made in two sections, covering the central and western gulf during November 14-30, and the northeast and north central gulf during December 3-13.

The trip will be devoted to obtaining seasonal catch-rate information on yellowfin tuna for the previously-mentioned areas. Five scheduled production-type trips, of which this is the last, have been carried out during the past year, to obtain a year-round picture of potential catch rates for commercial long-liners.

Biloxi Seafood Plants Being "Spruced Up"

Biloxi's concentrated shrimp and oyster canneries on East Beach Boulevard are now fronting on Mississippi's "most-travelled" highway—the "Old Spanish Trail". As a result, their owners have begun a "sprucing up" campaign. Factory buildings are now sporting fresh paint jobs and brilliant neon signs advertising their products to the passers-by. Visitors are welcomed at most of the plants.

Gloucester Harbor Dredging Operation Approved

At a special meeting of the City Council on October 27, it was unanimously voted to approve the proposed State-City $120,000 dredging operation in Gloucester Harbor. Cost to the city would be $30,000. The State would contribute $90,000.

William Raizin, one of the owners of the B & B Fish Co., objected to the project, stating that the dredging would not be done close enough to the piers, where most of the harbor waste accumulates, and odors originate. However, it is forbidden by law for the State to dredge within approximately 50 ft. of any pier or wharf, and only a private business can contract to do such work.

Menhaden Seiners Convert to Trawling

Gloucester menhaden seiners are converting to trawling, as menhaden have left the area. The total menhaden catch at Gloucester for the 1956 season was 66.5 million pounds. This was higher than last year, but was under earlier expectations.

To Stop Spilling Fish During Unloading

Nearly twenty fish firms in Gloucester last month agreed to take steps to stop fish from spilling into the harbor during unloading. The firms are going to place screens under de-icing machines to catch small fish that fall through the mesh, and they are going to install nets from the boats to the dock to catch any fish that spill out of the unloading buckets.

Clammers Named Deputy Shellfish Wardens

Three Gloucester clammers recently have been named as deputy shellfish wardens. They are Morris Roberts, Stanley Roberts and Joseph Klopotoski. The men will receive $300 a year for their work; and also may be sworn in as constables to increase their powers as law enforcement officers.

Hudon Handling Hercules Diesels

Capt. John R. Peterson of North American Marine Supply Co., Falmouth, Mass., New England distributor of Hercules marine Diesels, has announced the appointment of Nap J. Hudon Co., Dorchester, Mass., as a Hercules dealer. Hudon will provide sales, service and parts for the entire Hercules marine line which ranges from 75 to 500 hp.

Philip V. Pfeiffer now is associated with Hudon, and is coordinating sales and service on Murphy and Hercules marine Diesels, and Nordberg gasoline engines and Diesel power units. Another newly added line is Federal Paint Company's marine finishes.

Hudon is considered one of the largest organizations in New England specializing in Diesel engine installation and maintenance, having 28 service men. The firm maintains a full parts inventory for Murphy engines, for prompt shipment to all points in its territory.

Clarence Birdseye

Clarence Birdseye, 69, of Gloucester and New York, inventor of frozen food products, died October 7. Mr. Birdseye's first equipment for quick-freezing fish was an electric fan, ice cakes and salt brine, costing a total of $7. General Foods Corp. bought his firm for $22 million in 1929.

At the age of 26, Birdseye went to Labrador. There he worked as a fur trader and an aide to the famous medical missionary, Sir Wilfred Grenfell, who administered to ailing fisherfolk along the coast.

While in Labrador, Birdseye found that foods frozen very quickly in the dead of Winter kept their freshness as long as they were held at low temperatures. That discovery was the foundation of his successful quick-freezing process.

In 1923, after he had returned to the United States, Mr. Birdseye continued his campaign to perfect his find, and two years later went to Gloucester, where he could be close to a supply of fish. Using the electric fan, cakes of ice and baskets of salt brine, Mr. Birdseye developed and perfected the art of freezing foods, after six years of experimentation.

Massachusetts Clams

(Continued from page 17)

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shellfish. These screens substantially reduced mortalities from crab predation, but were expensive on an area protected basis. Further experiments were tried by Mr. Plummer and the Division of Marine Fisheries using plastic screen instead of metal, and the plastic was found to be more satisfactory—both from the viewpoint of initial cost and resistance to salt-water corrosion.

In working with screens, the biologists discovered that in many places they tended to concentrate small clams which were "wandering around loose" on the flats at high tide.

When clams abandon their free-swimming planktonic mode of life and settle to the bottom, they don't stay put. An individual clam may dig in and, not caring for its situation, come out and try some other spot. This apparent hit-or-miss change of locality may go on until the clam is nearly an inch long.

The function of the plastic screen is, apparently, to change the texture and improve the surface stability of the area on which it is laid, making conditions more attractive to the aimlessly-traveling, juvenile clams. Burrowing down through the meshes of the screen, the clams establish themselves underneath, protected from crabs, boring snails and other predators. If the meshes of the screen are sufficiently small, the clams are prevented from going forth on their own again, provided, of course, that they grow a few millimeters and become too large to crawl back the way they came.

Surplus Clams Planted on Near-by Areas

By laying down large sections of plastic screen on barren intertidal flats, the biologists found it possible to capture young soft-shell clams in sufficient concentrations to allow a later thinning out, the surplus being used to replant adjacent areas.

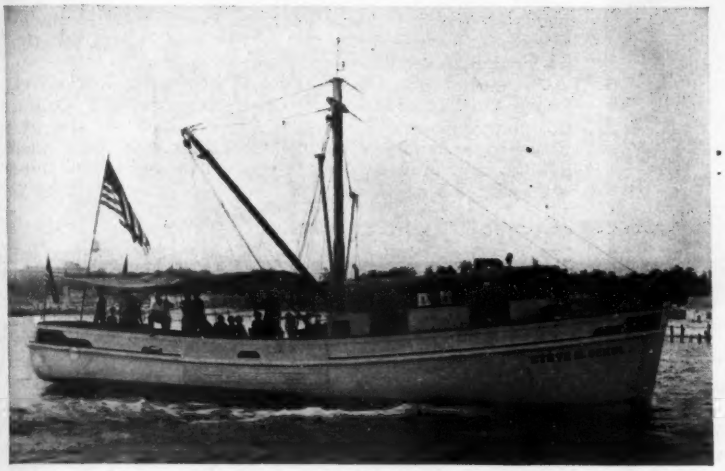
An experiment carried on by the Division of Marine Fisheries several years ago showed how effective the plastic screen method could be on flats protected from the action of heavy surf. Seven localities were chosen, and a 50 square foot section of 8 mesh/inch plastic screen was laid down on each in May, the edges being buried and weighted with stones to prevent washing and to keep undesirable animals from getting underneath.

It was shown that over 100 clams per square foot could be collected by the plastic screen method, and that it definitely prevented serious damage by horseshoe and green crabs and boring snails, as previously indicated.

Thus, through the cooperation of the Massachusetts Division of Marine Fisheries and the local shellfish authorities, there has evolved a means of combating predators at a time when their effect upon sparse clam populations is at a maximum. In addition, the use of the plastic screen has taught biologists much about the habits of young clams, and made it possible to capture and hold many millions of juvenile shellfish in sufficient concentrations to be of subsequent commercial value.

The scientists are learning more and more concerning the vagaries and irregularities of clam propagation. While they are convinced that nature must play a large part in populating the many acres of clam flats, they also have discovered that man can help by the intelligent application of known clam management techniques; by the development of new ones and by the careful regulation of his own fishing activities.

TOBIN BRONZE SHAFTING FOR ANOTHER BILOXI TRAWLER



Power from a General Motors diesel is transmitted dependably by a 3-inch Tobin Bronze shaft on the "Steve M. Sekul," which works out of Biloxi, Miss. This 55-foot shrimper was built by Toche Brothers Shipyard in Biloxi.

Tobin Bronze propeller shafting resists sea-water corrosion. It is strong and tough – yet "gives" under sudden jars to lessen the possibility of damage to bearings and housings. It is available through leading distributors of marine supplies. For detailed information, see your distributor or write: The American Brass Company, Waterbury 20, Conn. 56120

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The 60' shrimper "Bonacker", owned and skippered by Capt. Budd King of Fort Myers, Fla., and now fishing out of Texas. She has capacity for 45,000 lbs. of iced shrimp, is finished with International paint, and uses RPM Delo lubricating oil, Wickwire wire rope and Columbian cordage. She is equipped with 120 hp. Caterpillar D13000 Diesel with 3:1 Snow-Nabstedt reduction gear and 52 x 44 Columbian propeller, Surrette batteries, Ederer nets, Hathaway hoist, Danforth anchor, Ray Jefferson radiotelephone and direction finder, Bendix depth sounder and Metal Marine automatic pilot.

Florida Shrimp Net Mesh Regulation Being Sought

Berlin Felton, owner of the A & B Fish Co. and past president of the Southeastern Fisheries Assoc., has recently spearheaded a move to get the State Conservation Department to set up stringent conservation measures to protect the small shrimp taken by the Key West fleet.

The current Key West fleet numbers 48, and it is believed that the fishermen of the Carolina area are planning to move to the Florida grounds. This would mean a fleet of more than 300 vessels, which would pose a very acute conservation problem.

At present the boats are taking small-sized shrimp at the rate of 12 to 14 boxes per boat per night. Both the city and county commissioners have passed resolutions calling upon the Department of Conservation to promulgate regulations as to size of mesh to be used in the nets and to control the size of the catch.

A meeting with conservation officials, the Attorney General and officials of the University of Miami Marine Laboratory was scheduled for early last month, at which time it was expected some method of protecting the baby shrimp would be adopted.

Experiments with Mid-Water Trawl

The *George M. Bowers*, Fish & Wildlife Service exploratory vessel, left October 4 on a sixteen-day cruise off the coasts of Florida and Georgia between the 10 fathom contour and the edge of the continental shelf. The vessel was to experiment with mid-water trawling for menhaden, mackerel and sardines, species which it is believed can be taken efficiently by this type of trawling.

An RCA Echograph depth sounder is used to locate schools of fish at mid-depths. To keep the trawl at proper depth, a new telemetering instrument developed under contract with the University of Miami Marine Laboratory, is used. The telemeter attaches to the trawl cable and transmits continuous sound impulses to a hydrophone streamed from the vessel. Depth of the trawl is calculated from frequencies of the signal received.

Working out Mullet Advertising Program

Tom Smoot, long-time fish dealer, reports that a solution to mullet industry problems is now in the making, through advertising of mullet as a delicious food fish in potential marketing areas. Director Ernest Mitts of the Florida Conservation Department is working out a plan to assess shipments of fish to raise a fund for advertising mullet.

The Miami University researchers also are seeking ways of freezing mullet for packaged sale in supermarkets. Because of its oil content, mullet is a fish that does not take readily to freezing.

The mullet industry is centered in the three lower West Coast Florida counties of Charlotte, Lee and Collier. Consumer demand for mullet has declined for the past 10 years, and only about 500 fishermen now earn their livelihood at mullet fishing, compared to twice that number five years ago.

"Combat" Explores for Red Shrimp

The Fish & Wildlife research vessel *Combat* was still operating off the Florida coast last month, making exploratory drags for shrimp in deep water. During August and September, dragging for red shrimp was carried out by the *Combat* in 160 to 200 fathoms off St. Augustine. In mid-September a commercial shrimper, the *Northeaster*, worked with the *Combat* and landed approximately 1,800 pounds of red shrimp.

A part of the time was devoted to additional shallow-water exploration along the Florida coast north of Cape Canaveral. Although several isolated trawling areas were located, the bottom was found to be mostly coral and generally untrawlable out to the edge of the continental shelf.

While fishing at night during this period, several large schools of sardines were observed and picked up on the depth recorders between the 10 and 40-fathom curves.

Plan Menhaden Processing Plant

Florida and Alabama businessmen are planning to spend over $200,000 for a fish processing plant at Apalachicola, to convert menhaden into oil and fish meal. The plant promoters have obtained a State charter as Gulf Menhaden Fisheries, Inc., and the Florida Securities Commission has given them approval to issue stock up to $400,000 in the first public offering.

The plant will process up to 500 tons of fish daily. The firm plans to operate four fishing boats, guided by a spotter airplane; and also to purchase fish from commercial fishermen.

Officers, in addition to H. B. Lewis, Port St. Joe, president; and Wendell C. Heaton of Tallahassee, attorney; are Ike Wade, Apalachicola, vice-president and plant superintendent; D. M. Lewis, Port St. Joe, vice-president; T. T. Skeen, Dothan, Ala., treasurer and auditor; Capt. J. P. Kilbourn, Port St. Joe, director; and David C. Gaskins, Wewahitchka, director.

Fish Landings and Value Increase

Fishermen in Florida's salt waters brought in a 174,307,000-pound catch which sold at the docks for $25,555,000 last year. This catch showed a 2 percent gain in volume and a 4 percent increase in value over 1954. Compared with the average for the past five years, the 1955 catch was down 9 percent in size, but up 7 percent in value.

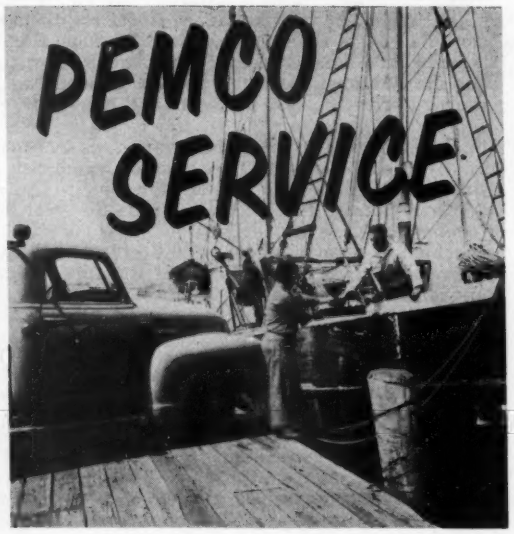
New Jersey Boat Explodes at Sea

Capt. Sigvald Ossmundsen of Cape May Court House and Joseph Walton of Rio Grande, escaped last month when the engine room of their 72-ft. fishing boat *Nelfred* exploded at sea.

Neither man was injured and both managed to escape in a dinghy. The vessel sank some 11 miles offshore.

Larger Landings of Menhaden and Surf Clams

Commercial landings of fish and shellfish at New Jersey ports during July amounted to 122.2 million pounds valued at slightly over $2,000,000 to the fishermen. Compared with landings reported for the same month last year, this represented an increase of 33 percent, primarily due to a larger production of menhaden and surf clams.



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Great Lakes Fishermen Are Making Good Perch Catches

With the lake trout season closed during October and the whitefish season closing this month, total production of Great Lakes fish is down somewhat. However, the Fall run of perch in the Les Cheneaux Island area of Lake Huron and in Northern Lake Michigan and the Green Bay area, provided fish producers with impressive yields.

Herring catches on Lake Superior were reaching the peak in November, with best takes in the Bayfield, Wis. area. Herring netters plying out of Chassell, Mich. were reportedly getting some nice catches for Dormer Fish Co., with plants at Chassell and Menominee.

Yellow pike yields were moderate to good in the northern Green Bay area, and chub production from Lake Michigan was generally fairly good. Small operators fishing on Lake St. Clair were getting fair takes of perch, carp, sheepshead, etc.

On Lake Ontario, with only the Canadian fishermen reporting, catches have been and still continue to be fair to better, except good yields were indicated in perch and ciscoes.

Mississippi River fishermen operating in Illinois waters reported good takes of buffalofish, burbot, suckers, etc.

Trout Restocking Program Completed

The Fall planting program for restocking Lake Superior with lake trout has been completed, with commercial fishermen, the Conservation Dept. and the Fish & Wildlife Service having cooperated in the venture.

During one week over 140,000 fingerling lake trout, ranging in length from one and a half to four inches, were released in Marquette Bay. In October an estimated 240,000 lakers were deposited in Superior.

Ohio Fish Production Increases

Commercial fishermen operating in Lake Erie waters during August reported total landings of 1,500,000 lbs., about 725,000 lbs. greater than the amount reported for the corresponding month of 1955. Yellow perch led all other items in aggregate pounds landed, followed by blue pike and carp.

While fishing was spotty in the eastern part of Lake Erie, it was somewhat improved in the west end in quantity—particularly in yields of yellow perch. The price, however, was not improved. The gill-net fleet in the eastern basin of Lake Erie changed from taking whitefish to taking blue pike.

Inspect Rough Fish Control Operations

A group of men from the Michigan Conservation Dept. recently inspected rough fish control operations conducted by the Wisconsin Conservation Dept. on Beaver Dam Lake and on the Rock River in the Horicon Marsh area. The men said their State has no rough fish control program in effect at present, but expects to set up a program patterned after the one in use in the Beaver Dam Lake area.

A seining crew of the Wisconsin Conservation Dept. recently brought in 115,000 pounds of rough fish in five seining hauls made on Beaver Dam Lake. The seining operations started earlier than usual this year because of cool weather in the early Fall.

Much of the carp taken by the crews is shipped to eastern markets, although some of the fish are used by mink ranchers as mink food.

Fishermen on the Move

A number of commercial fishermen have been reported as leaving the Upper Michigan area of Lake Superior for other fishing grounds. The Pumula brothers of Freda have moved to Juneau, Alaska, where they are engaged in halibut and salmon fishing. John Kelly of the Houghton Canal area has gone to South America to enter tuna fishing, and there have been reports of other moves.

The Lepisto brothers of Houghton, long-time commercial fishermen, now use their boat only for occasional trolling trips.

Fish Hatchery Reopened

Closed since the Fall of 1953 for complete renovation, the Tarentorous Trout Rearing Station, Sault Ste. Marie, has been reopened. The station now can hatch approximately six million eggs, and close to a million yearling fish can be reared, after supplying other districts with several hundred thousand fry and fingerlings. Millions of lake trout for Superior will be hatched and reared at the station.

Large Number of Lampreys Killed

Final figures for this year's sea lamprey trapping operations in the Upper Peninsula, Mich., and Wisconsin, show that 79,000 of the parasitic eels were captured and killed by Fish & Wildlife Service crews. This year's total catch is the highest in the three years during which weirs have been operated. It is 22,195 greater than last year's total, and in 1954 the total was 31,220.

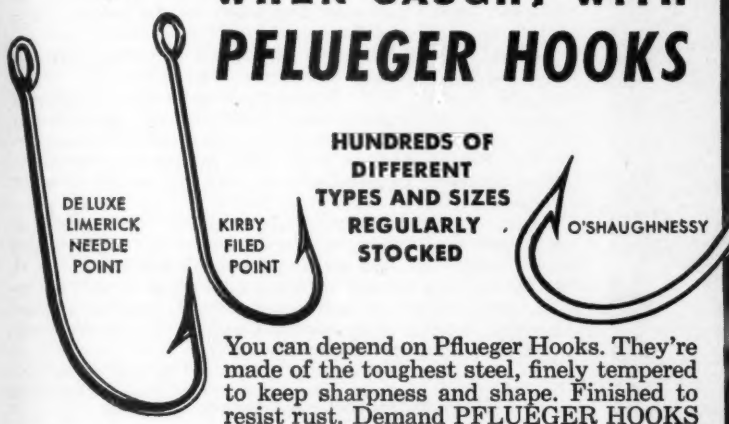
Biggest producer of the parasites this year was Cedar River in Menominee County, Mich., from which 16,330

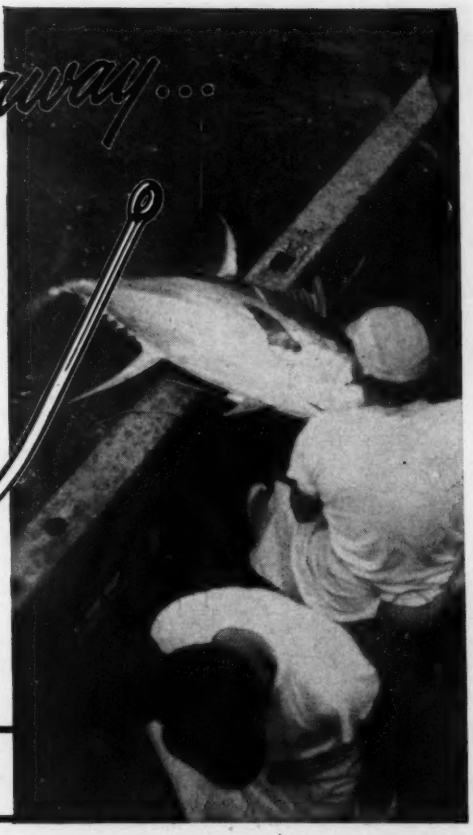
NEW SHRIMPER "JUNE T." and her owner, Walter Teich of Adams Creek, N. C. The 56' x 16' craft was built by Williston Boat Works, Williston, N. C., and is skippered by Capt. Paul Davis. The ice compartment is insulated with Styrofoam, and the vessel will carry 40,000 lbs. of shrimp. She is equipped with 6-110 General Motors Diesel, rated 220 continuous horsepower, giving her a speed of 12 knots. Outfitting of the new vessel was done at the Machine and Supply Co. in Beaufort.

They just don't get away...

WHEN CAUGHT WITH

PFLUEGER HOOKS


DE LUXE LIMERICK NEEDLE POINT
KIRBY FILED POINT
HUNDREDS OF DIFFERENT TYPES AND SIZES REGULARLY STOCKED
O'SHAUGHNESSY



You can depend on Pflueger Hooks. They're made of the toughest steel, finely tempered to keep sharpness and shape. Finished to resist rust. Demand PFLUEGER HOOKS to hook and hold more fish.

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lampreys were taken. It was followed by the East Twin River in Wisconsin, with 12,130 lampreys captured.

Among Lake Superior streams, largest contributor to the total was the Chocolay River in Marquette County, Mich., which furnished 6,880 lampreys, followed by the Sucker River in Alger County, Mich., which produced 4,400.

Two streams failed to yield a single lamprey this year—the Salmon Trout River and Harlow Creek in Marquette County, Mich.

Fishermen's Loans Available

Loans to commercial fishermen, as provided under the newly-created fisheries loan fund authorized by the Fish & Wildlife Act of 1956, are now available. In the Great Lakes area, the Fish & Wildlife Service office is located in Room 618, 565 W. Washington St., Chicago, Ill.

Interest on all loans will be 5% per annum, and the period of maturity of any loan shall be determined and fixed according to circumstances, but in no event can it exceed 10 years. Loan application forms and instruction sheets for filling out the forms, can be obtained from the Fish & Wildlife Service office.

Algae May Cause Lack of Oxygen in Water

Recent research by State and private industry technicians in Wisconsin has indicated that dead and decaying algae may be an important factor in the low oxygen content of waters at certain times of the year. Studies have shown that the Fox River near where it enters Green Bay and a part of the Bay itself, have a very low oxygen content in Summer, which is detrimental to fish life.

Evidence now has been found to show that dead algae entering the Fox from Lake Winnebago and floating downstream to Green Bay, may be responsible for at least part of this lack of oxygen.

B.F.Goodrich

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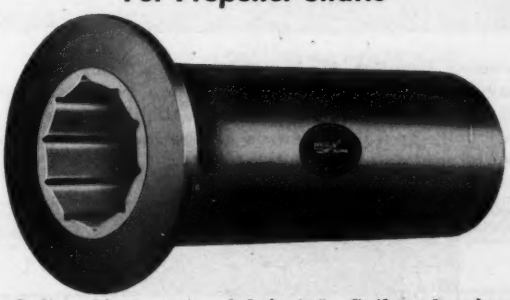
For Propeller Shafts



Soft rubber, water lubricated, Cutless bearings give years of trouble-free service on fishing vessels. Resist heat, oil, and wear. Quiet and protect shafts too. There is a size and type to fit your boat.

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. . . says Joe Barcott
of Everett, Wash.

Here's another vote of confidence for Nordberg Gasoline Marine Engines in hard-working fishing service:

The 31-ft. gillnetter *MELINDA*, owned and operated by Joe Barcott of Everett, Wash., is ably powered by a husky 155 hp Nordberg *KNIGHT* with a 2 to 1 reduction gear.

Designed by Edwin Monk and built by Northwest Boat Shop in Everett, *MELINDA* is used for salmon fishing in Puget Sound on an average of 60 hours per week. Here's what her owner-skipper has to say about the performance of his Nordberg *KNIGHT*:

". . . engine runs like a million dollars—I'm well satisfied with its performance."

Want the *best* power for *your* fishing vessel? *Then specify NORDBERG engines . . . from 60 to 155 hp.* Mail the coupon for catalog.

***Nordberg Gasoline Marine Engines* are built in 7 heavy duty models for fishing service, from 60 to 155 hp. 4 reduction gear ratios available, and hydraulically-operated reverse and reduction gears are optional on most models.**

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Weakfish Study Approved

(Continued from page 14)

mendations to State officials; 4. stronger organization among fishing interests and Commissions to influence favorable National Legislation.

Summary reports from each of the five States told of work during the past year and plans for the future. Presenting reports were the following:

Alabama—A. J. Harris, Jr., Assistant Attorney General, Department of Conservation; Florida—Robert M. Ingle, assistant director, State Board of Conservation; Louisiana—James N. McConnell, chief, Division of Oysters and Water Bottoms and Commercial Seafood; Mississippi—Gordon Gunter, director, Gulf Coast Research Laboratory, Ocean Springs; Texas—Cecil W. Reid, director, Coastal Fisheries Division.

During the discussions, Ingle outlined a remedy for black spot on shrimp, a discoloration that lowers the market value. He said researchers in his State had found that by dipping shrimp in a vat of sodium bisulfite, the black spot could be prevented. Ingle predicted that shrimping States from North Carolina to Texas soon would adopt the preservative method.

Urges Joining National Shrimp Congress

Charles Bevis, executive secretary of the Southeastern Fisheries Association, urged the Commissioners to join the recently organized National Shrimp Congress, a trade association "representing all the seafood industry". He said the organization, which works with Atlantic Coast interests, will be a strong force in bringing pressure on Congress for "needed legislation for the industry".

Summary reports of Fish and Wildlife Service research and statistical work during the past year were presented by Thomas J. Costello, acting chief, Gulf Fishery Investigations, Galveston, Tex.; Philip A. Butler, chief, Gulf Oyster Investigations, Pensacola, Fla.; Harvey R. Bullis, Jr., chief, Gulf Fisheries Exploration and Gear Research, Pascagoula, Miss.; and Charles H. Lyles, chief, Gulf Fishery Statistical Program, New Orleans, La.

Dr. O. Lloyd Meehean, assistant to the director, technical staff services, U. S. Fish and Wildlife Service, outlined plans for reorganization of the Fish and Wildlife Service. "The reorganization", Dr. Meehean said, "was the result of an awareness of Congress of the tremendous importance of the fishing industry to the American economy."

Gunter Chairman of Scientific Session

While the Commissioners held executive sessions, a scientific session was conducted under the chairmanship of Mr. Gunter. Subjects and speakers were as follows: finfish—Royal D. Suttkus, Tulane University; crustacea—Percy Viosca, Jr., Louisiana Wild Life and Fisheries Commission; shellfish—Lyle S. St. Amant, Louisiana Wild Life and Fisheries Commission; technology—E. A. Fieger, Louisiana State University; oceanography—F. G. Walton Smith, director of the University of Miami Marine Laboratory; exploration—Harold C. Loesch, Alabama Department of Conservation; statistics—Clarence P. Idyll, University of Miami Marine Laboratory.

Viosca reported on his observations of shrimp migration and growth in Lake Pontchartrain and other inshore waters of Louisiana. Both he and Chairman Gunter brought out the lack of information on brown and pink shrimp, which are becoming increasingly important.

St. Amant outlined Louisiana's progress in planting oyster shell. He said the policy is to plant shell at wide intervals on mud bottom, avoiding existing reefs and live oyster beds. St. Amant reported that tests have shown that steam and mud shell possess practically the same actual ability to catch spat, "provided the size is large enough to catch and keep the spat".

Boston Research Vessel Investigating Winter Habits of Tuna

The Boston Fish & Wildlife Service research vessel *Delaware* left New Bedford on October 26 for a week's trip to search for Atlantic tuna and to study homing and wintering habits of the fish. The vessel was in command of Capt. Denis Hayes, and the project is under the direction of James L. Squire.

If the men can find where the tuna hide in cold weather, it might be a commercial boon and make the establishment of Atlantic tuna canneries feasible, instead of risky as at present with only a two-month tuna run yearly.

On the *Delaware's* previous cruise, no commercial concentrations of trawl fish were found in the deep water south of Georges Bank. Previous operations by the *Delaware* during deep-water lobster exploration in this area, gave indications of possible commercial concentrations of ocean perch.

Fourteen dredge stations produced indications of ocean quahogs and sea scallops. This minor phase of the operation was conducted as a preliminary exploratory operation incidental to the major objective of the cruise. Fifteen hundred pounds of lobsters were caught incidentally to the fish trawling operation.

Georges Bank to be Charted

Secretary of Commerce Sinclair Weeks on October 30 announced that the U. S. Coast and Geodetic Survey will resurvey Georges Bank, off the Massachusetts coast. This fishing area is considered by the New England fishing industry as its most important economic asset.

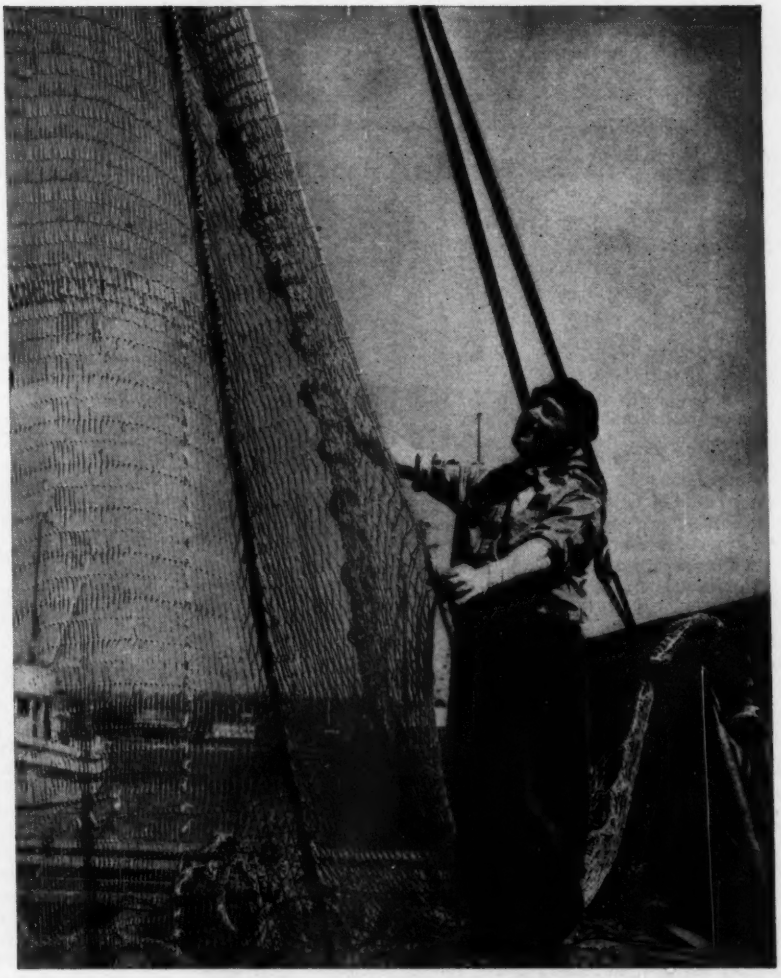
The area has not been surveyed for 25 years, and it is expected the work will start in March of next year, and should be completed about October 1, 1957. The survey will be done by the 167' *Hydrographer*.

Fishery Technologists Meet

The first 1956-57 meeting of the New England Fishery Technologists was held in Boston last month. Quality fishery products through plant sanitation was the principal subject.

A Harris Kenyon, chief inspector of the U. S. Food & Drug Administration's New England region, outlined his agency's work in the field of plant sanitation and product inspection. Herman Swett, chief of the Processed Products Division, outlined the standardization and inspection of processed foods by the Department of Agriculture.

Grading and inspection of fishery products was initiated this year with the setting of standards for fish sticks.



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Netting that wears long — and delivers the profits you fish for — that's the kind of netting *any* fisherman looks up to. You can count on Ederer® quality when you buy. Specify it by name: Ederer Cotton Netting, Ederer Double Knot Salmon Gill Netting (Royal Chinook® Linen or Nylon), Ederer Sta-Lok Nylon Gill Netting and Ederer Bonded Nylon Seine Netting.

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MAKERS OF FINE NETTING FOR OVER A CENTURY

EQUIPMENT and SUPPLY NEWS

Cating Celebrates 90 Years' Rope Making

About 200 people were present at the 90th anniversary celebration of the Cating Rope Works, Inc., which was held October 4 at the North Hempstead Country Club, Port Washington, Long Island.

W. C. Cating

Down through the years since 1866, there have been three generations of Catings in the rope making firm, the present head of the company being W. C. Cating. A fourth generation, W. C. Cating, Jr., is expected to enter the rope making business when he becomes of age.

The original Cating Rope Works was founded by Major Cating in 1866, soon after he hung up his uniform at the close of the War Between the States. As a youth, he had worked in ropewalks at Maspeth, N. Y., the present home of K-ting Rope, and in Jersey City, N. J.

For about 25 years all Cating ropes and twines were handmade. Then, in 1890, rope making machines were introduced to the trade.

The machines did not, however, immediately end the making of rope by hand at the Cating plant. For some years longer hand manufacture continued in successful competition with the machines. When Major Cating died in 1893, the responsibility of carrying on shifted to his son, W. B. Cating.

Under W. B. Cating's management, the transition from hand to modern machine manufacture was made complete. In 1935, the Cating Rope Works was completely rebuilt, modernized and streamlined.

During the past many years, K-ting Rope has kept pace with improvements in the cordage industry, and today offers three outstanding features. They are: center strand lubrication, improved hawser-making machine which assures rope of the highest tensile strength and durability, and laboratory testing and control.

New milestones in the art of making K-ting Rope mark the company's 90th anniversary. The preparation and spinning departments have been completely updated with one of the most modern systems in the cordage industry. The Cating plant is now adaptable to the twisting of Nylon, Dacron and Polyethelene, as well as manila and sisal.

American M.A.R.C. Making Hallett Diesels

American M.A.R.C., Inc., Inglewood, Calif., which last April purchased the Diesel Division of Hallett Manufacturing Co., pioneer builder of lightweight portable Diesel engines, has elected Benjamin Tobin, Jr. to its Board of Directors. Mr. Tobin is president of Continental Sales & Service Co. of Los Angeles, newly-appointed Western distributor of American M.A.R.C.—Hallett Diesel engines for the industrial and marine markets.

According to W. Denis Kendall, president of American M.A.R.C., Inc., Mr. Tobin will take an active part in that company's sales activities. Prior to forming Continental Sales & Service Co., Tobin was vice-president and a director of Continental Motors Corp. of Detroit.

Current production of American M.A.R.C. engines includes both air-cooled and water-cooled models that bring large Diesel engine economy to the users of small engines. Recently ten American M.A.R.C. air-cooled, engine-generator sets were shipped to Alaska for use as emergency power units.

Booklet on RCA Electronic Instruments

"Safety—in Marine Navigation" is the title of a new 32-page booklet published by Radio Corporation of America, 30 Rockefeller Plaza, New York 20, N. Y. This attractive, profusely-illustrated brochure tells of the many uses of RCA electronic instruments on all types and sizes of vessels, from giant ocean liners to small craft.

The section on electronic aids for fishing boats gives particular attention to the RCA Fischlupe, which provides a continuous picture of the water beneath the ship. The booklet states that with this instrument, trawler captains can tell the difference between large and small haddock, between haddock and cod, and even can pick out single fish.

RCA's electronic depth sounder tells the fisherman exactly where the fish are, and with Loran, he no longer has to worry about drifting off course in rough weather. Radiotelephones have become practically standard equipment on fishing boats.

Among the many illustrations in the brochure is one showing a fleet of menhaden vessels, all equipped with RCA radar.

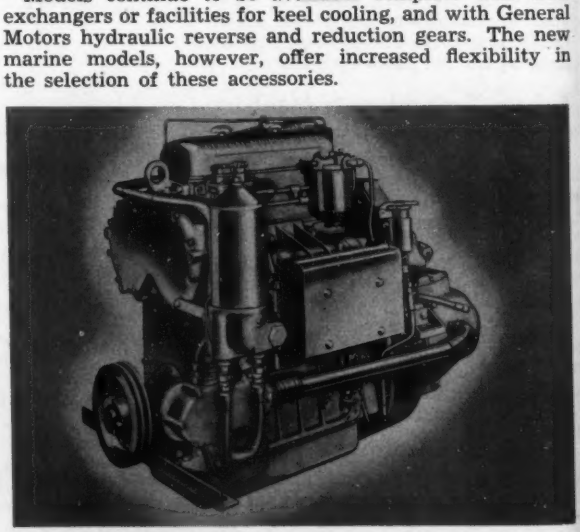
Detroit Diesel Offers New Marine Models

Two new Diesel propulsion units especially adapted for installation in small boats have been announced by the Detroit Diesel Engine Division of General Motors Corp., Detroit 28, Mich. Standard models develop 110 and 151 shaft horsepower, and are available as matched pairs in both right- and left-hand engine rotation. They are three- and four-cylinder Series 71 Diesels, offered for the first time without heat exchangers and with through-shaft, direct-drive marine gears as standard equipment.

Various types of heat exchangers can be used on these models, and they are, therefore, especially adapted for use in boats where cooling systems already are installed. The standard direct-drive gears offer maximum compactness for small-boat installations.

Standard models of these engines weigh 1580 and 1850 pounds respectively, and the larger model is offered with both cast iron and aluminum block. In the latter, aluminum is used also in other component parts for further weight reductions. All models have thermostatic engine water control.

Models continue to be available complete with heat exchangers or facilities for keel cooling, and with General Motors hydraulic reverse and reduction gears. The new marine models, however, offer increased flexibility in the selection of these accessories.



Detroit Diesel's new 3-cylinder, 110 shp. marine model for small boats.

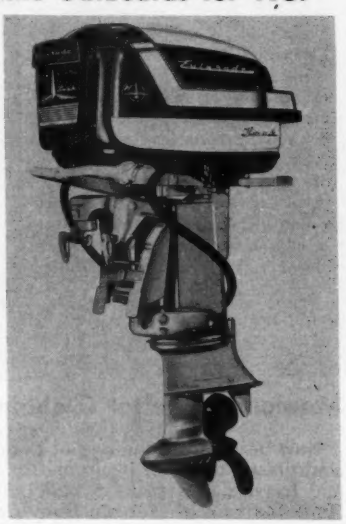
Hendrix Heads Texaco's Marine Sales

Durrett Hendrix has been named manager of The Texas Company's Marine Sales Division, and his headquarters have been transferred from Houston, Texas, where he was assistant manager of the Southern Sales Territory, to New York. He succeeds Joseph H. Moran, who has been appointed Director of Trade Relations.

Mr. Hendrix joined The Texas Company's Marine Department in 1919 and served as a chief engineer aboard Company vessels until 1926. That year he was transferred to the Domestic Sales Department at New Orleans as a lubrication engineer. He was appointed assistant manager of the New Orleans Sales Division in 1933, and Division Manager in 1938. In 1943 he became assistant manager (administration) of the Marine Department. He was named assistant manager of The Texas Company's Southern Sales Territory in 1945.

Evinrude Offers Nine Outboards for 1957

Heading Evinrude's nine motor line for 1957 are three new 35 hp. outboards, two of which are electric-starting, with automobile-type generator as optional equipment. The 35 hp. Evinrude outboards include the rope-starting and electric-starting Big Twins and the electric-starting, deluxe Lark, which replace the three 30 hp. motors of the 1956 line.



The 35 hp. Evinrude Lark is a deluxe electric-starting outboard, finished in aqua-white, with tones of gray and trim of chrome.

A new starter motor employing 12 volts in the same space as previously used six volts, has been designed for Evinrude electric-starting outboards. The 12-volt system makes it easier to start outboards by developing greater torque and cranking ability. There is a new corrosion-resistant, electrical plug-in connector, permitting easy removal of the motor from the boat. A new air silencer and a new system of reduced compression on the Big Twin make it as easy to start as motors half its size.

Also introduced by Evinrude are two new 18 hp. Fastwin motors, including electric-starting and rope-starting models, both with the new slip clutch which eliminates changing shear pins. These motors replace the two 15 hp. models offered in 1956.

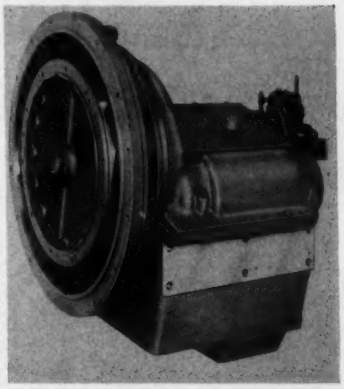
The use of the new slip clutch propeller on all models except the 5½ hp. Fisherman and 7½ hp. Fleetwin, is accomplished by a rubber hub that has been redesigned to allow the propeller to slip when an obstruction is hit. A stainless steel drive pin replaces the traditional brass shear pin. The 5½ hp. and 7½ hp. motors previously had been equipped with a Safti-Grip clutch which serves the same purpose.

Propellers on the Evinrude outboards also have a weed cutter that tears or cuts stringy weeds or line attempting to wrap around or work between the propeller and gear case. The Evinrude outboards are salt-water-proofed throughout, and require no fresh water flushing at any time during a season.

In the smaller horsepower class, Evinrude offers its Sportwin, which develops 10 hp., and has such features as the slip clutch propeller, improved propeller design, weed cutter and idling stop. The 3 hp. Lightwin also is equipped with weed cutter and slip clutch propeller.

New Heavy-Duty Snow-Nabstedt Gear

The Snow-Nabstedt Gear Corp., Hamden, Conn., marine transmission engineers for over half a century, has announced a new hydraulically - actuated, marine reverse-reduction gear for high-speed, heavy-duty Diesel engines in the 300 to 800 hp. range. The Model 3971 marine gear is currently in production after a five-year program of intensive research engineering, development, and testing.



New Snow-Nabstedt marine gear for Diesels in the 300 to 800 hp. range.

The new gear is hydraulically - actuated by fingertip control, with exceptionally small power losses. The compact design offers easy installation on the engine and insures equal life at full speed and full power driving either ahead or astern. It is said to be capable of indefinite idling and free-wheeling, and is made in reduction ratios from 2:1 to 5:1.

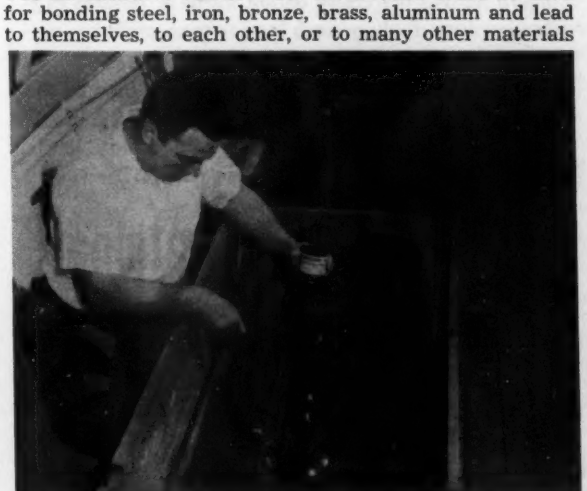
Large inspection covers permit quick and adequate inspection of the gearing and bearings. All accessories are easily removable for replacement without opening the gear housing. A split main housing permits removal of the gearing and clutches without disturbing alignment of gear, engine, or propeller shaft.

All gears are hardened and ground and are straddle-mounted between antifriction bearings. Clutch drag is kept at an absolute minimum because forward and reverse clutches are synchronized to release one another. Over-all length of the new Snow-Nabstedt marine gear is 34 13/16"; weight, 2400 lbs.

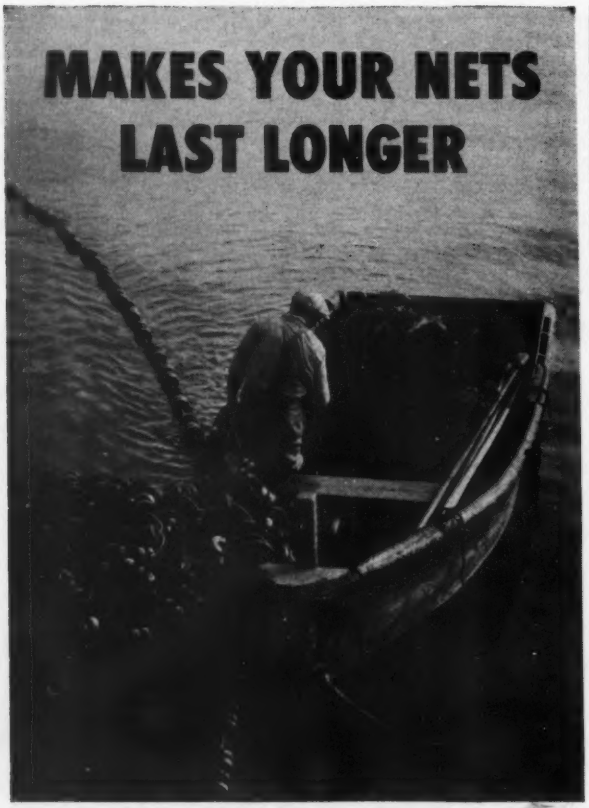
Devcon Plastic Steel Repairs Metal Parts

Devcon, the plastic steel, is useful on board fishing boats for repairing cracked engine blocks and tanks, pipe leaks, and worn exhaust silencers. It is a combination of 80% steel and 20% plastic, which becomes a strong, steel-like mass two hours after the addition of a special hardening agent. Once hard, it can be sawed, drilled, threaded or ground with regular metal working tools.

Devcon was developed originally for use by the metal working industry, but it soon was found that the product was an excellent adhesive for metals and could be used for bonding steel, iron, bronze, brass, aluminum and lead to themselves, to each other, or to many other materials



Devcon plastic steel being used to repair a cracked engine block on a fishing boat.



INTERNATIONAL NET DIPS protect nets most effectively. They come ready-to-use, require no heating nor special equipment for application, and are quick drying.

INTERTOX NET DIP #1699 is an inexpensive homogeneous mixture with toxic properties which penetrate completely into the innermost fibres of cotton and linen netting, protecting them from the destructive action of the organisms that cause cordage rot.

G. M. FISHING NET COPPER PAINT #1866 is higher in cost due to the anti-fouling element. Will not injure netting nor cause undue stiffness. Assures protection from fouling much longer than ordinary materials.

The cost of nets is such an appreciable part of the cost of fishing, that materially prolonging the life of nets is of utmost importance to the fisherman. Write today for particulars about these net dips.

International MARINE PAINTS

International NET DIPS

International Paint Company, Inc.

21 West Street, New York 6, N. Y.
So. Linden Avenue, So. San Francisco, Calif.
628 Pleasant St., New Orleans 15, La.

WORLD'S LARGEST MARINE PAINT MAKERS

including glass, porcelain, concrete and wood. As a result, Devcon is now being used in large quantities for rebuilding broken machinery, filling large and small holes in castings, building up worn metal surfaces on machine tools, repairing stripped threads, bearings, etc.

Devcon is highly resistant to most acids, alkalies and chemicals. It is manufactured and sold by the Devcon Corp., Danvers, Mass. Two types are now available: Devcon A is a putty type that can be applied to a vertical surface and will not run or sag; Devcon B is a viscous liquid that can be poured. Both have a compression strength of approximately 18,000 psi. There is practically no shrinkage during hardening and, once set, Devcon is durable and permanent. No heat or pressure is required; in fact, Devcon will harden under water, which makes it highly useful in the marine industry.

G. M. (Mac) Johnston, who has been appointed district representative of the Twin Disc Clutch Company's New Orleans, La., office. Mr. Johnston will continue to operate in the Southeastern part of the United States. He came to Twin Disc in 1953 as a district service representative, and prior to his recent promotion, he was district sales engineer. Mr. Johnston attended Louisiana State University and General Motors Diesel Service School. He is a veteran of World War II, serving in the U. S. Navy Submarine Service.

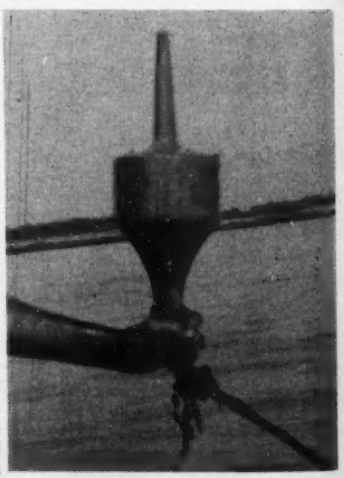
Marconi Buoys for Crabbing, Lobstering

Now in use from the Bay of Fundy to Long Island, Marconi plastic buoys are suitable for lobster traps, crab pots and for use as a pick-up buoy. They were invented by Hugo Marconi of Marconi Buoy Co., Kittery, Maine, who has been engaged in fishing for 30 years and spent some five years developing the new plastic buoy. He has patented the buoys in the United States and Canada.

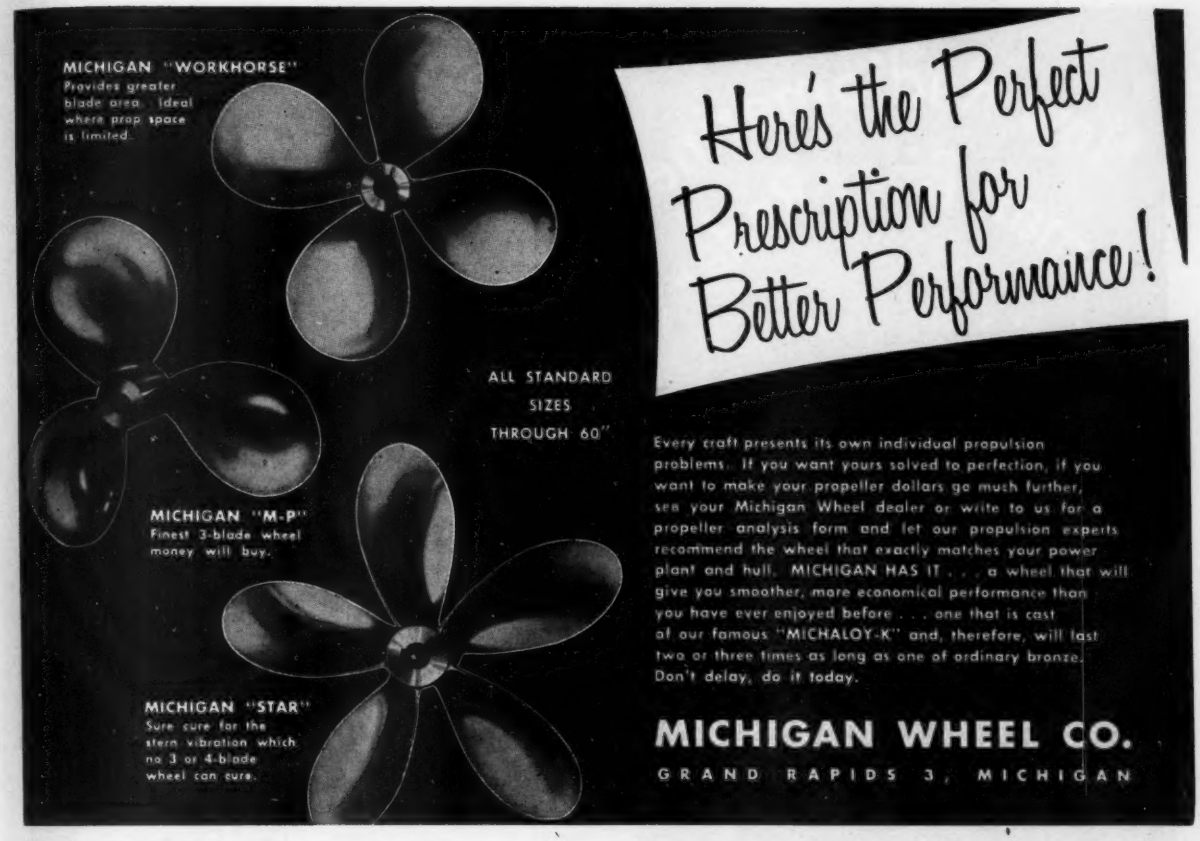
Test Marconi buoys used on lobster traps off the New Hampshire coast in tidal areas were in the water for 16 months without being removed for drying or painting. When recovered, the buoys had no marine growth on them, and the paint still was in good condition.

Marconi plastic buoys float higher, enabling lobstermen to find traps quicker, and are so buoyant that they cannot be run over. The inventor claims that it is necessary to paint the plastic buoys only once a season. Less scrubbing time is required, since the buoys do not collect marine growths.

The Marconi plastic buoy weighs 16½ oz., which means that it is light on the end of a gaff, and easy to handle. The buoys have 8 interior compartments for strength and flotation. They are 16" long by 6" in diameter, and are painted white.



A Marconi plastic buoy which had been on a lobster trap in Atlantic Coast waters for 16 months without removal for drying or painting.


MICHIGAN "WORKHORSE"
Provides greater blade area. Ideal where prop space is limited.
ALL STANDARD SIZES THROUGH 60"
MICHIGAN "M-P"
Finest 3-blade wheel money will buy.
MICHIGAN "STAR"
Sure cure for the stern vibration which no 3 or 4-blade wheel can cure.
Here's the Perfect Prescription for Better Performance!
Every craft presents its own individual propulsion problems. If you want yours solved to perfection, if you want to make your propeller dollars go much further, see your Michigan Wheel dealer or write to us for a propeller analysis form and let our propulsion experts recommend the wheel that exactly matches your power plant and hull. MICHIGAN HAS IT . . . a wheel that will give you smoother, more economical performance than you have ever enjoyed before . . . one that is cast of our famous "MICHALOY-K" and, therefore, will last two or three times as long as one of ordinary bronze. Don't delay, do it today.
MICHIGAN WHEEL CO.
GRAND RAPIDS 3, MICHIGAN

Texas Shrimp Landings Show Large Increase

Landings of shrimp at the principal Texas Gulf ports showed a substantial increase during the 30-day period ending October 25, when 6,170,000 lbs. of heads-off shrimp passed through the processing plants. This was the largest volume of shrimp in any single month during the last year, and was 34 percent above that of the previous 30-day period.

The Aransas Pass-Corpus Christi areas led all others with 41 percent of the total landings. The Port Isabel-Brownsville area was second, with Galveston and Matagorda following.

Shrimp landings for the period from January 1 to September 30 were six million pounds under those for the same period in 1955. Seizures of American fishing trawlers by Mexican gunboats, as well as tropical disturbances in the South Gulf, have driven a large majority of the shrimping fleet into North Gulf waters.

The production of edible finfish has shown a slight increase since the first of 1956. The last three months of the year generally produce more fish than do others; therefore, fish production should be well above the average for the year.

Oyster production is on the increase. Since January 1, reefs in the Galveston Bay area have produced 5,745 barrels, as compared with 2,480 barrels for the same period last year.

Purchases Two New Trawlers

Two new trawlers have been purchased from the Diesel Engine Sales Co. at St. Augustine, Fla., by the Independent Fish Co., Inc., of Brownsville. The *Padre Island* and *Laguna Madre* are of wood hull construction, 67' x 20' x 6', and are powered with 150 hp. Murphy marine Diesel engines.

Shrimp Nets and Fishing Gear Seized by Mexico

Texas trawler owners and crews operating along the South Texas Coast were alarmed early last month when Mexican authorities claimed they were operating within the nine-mile limit. Almost immediately, four American-owned shrimp trawlers were stopped by a Mexican tugboat at separate times, and the Mexicans seized all nets and fishing gear. The four vessels stopped were all from Texas—the *Linda Mae*, owned by Producers Marine Service of Port Isabel; *Miss Gena*, owned by Virgil Versaggi; *Capt. Gene*, owned by Noble Hardee; and *Carlton Echo*, owned by W. L. Hardee, all of Brownsville.

Owners of fishing vessels from the Gulf Coast area have petitioned for accelerated sea patrol of the Campeche and Tampico fishing banks.

To Have New Shrimp Freezer Boat

The Brownsville Shrimp Exchange has contracted for a new freezer boat to use on their Brownsville, Texas to Carmen, Mexico shrimp transport run. The freezer boat *Four Brothers* is being built by the North Boat Works at Rio Hondo.

Trawlers Lost in Severe Storm

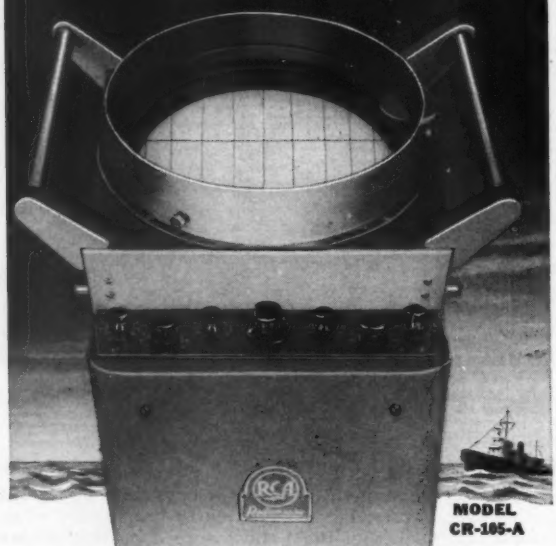
A violent storm with 100-mile winds struck Galveston Bay October 20, capsizing boats and causing death to at least five persons. Two shrimp trawlers were reported lost by the Sabine Pass Coast Guard. The shrimper *Tramp* was reported missing with two men aboard, and the trawler *Laura Ann* sank, but her crew was rescued.

New Freezer to Operate at Port Lavaca

The Cal-Tex Frozen Foods Co. of California has leased space in the Municipal Freezing Plant at Port Lavaca to be used as a basis for operations in the Texas coastal area.

New Radiomarine Small Boat Radar

- Saves Money
- Saves Space
- Saves Power



MODEL CR-105-A

Especially designed for vessels on which space and power are limited, Radiomarine's new CR-105-A Radar offers you the EXTRA features that give you MAXIMUM PERFORMANCE—MAXIMUM CONVENIENCE—MINIMUM MAINTENANCE. Only two basic units—indicator and antenna. Indicator is in deck mounted binnacle . . . keeps picture tube high for best viewing . . . requires less than two square feet of deck space. Antenna is lightweight . . . only 105 pounds. Instant selection of 1-2-4-12-32 mile ranges helps you navigate through foul weather and traffic hazards to cut your trip-time, boost your profits. You'll read the clear, bright pictures on its 10-inch scope easier . . . service it quicker with the easy-access chassis. And here's another saving . . . the Radiomarine CR-105-A requires only 600 watts from ship's battery or other D.C. power supply. Find out more about the new Radiomarine CR-105-A . . . it can mean greater profits for you right now.

RCA

write for free information now!

RADIOMARINE SALES

RADIO CORPORATION of AMERICA

75 VARICK STREET, NEW YORK 13, N.Y.

BOAT CATCHES

For Month of October

Hailing fares. Figure after name indicates number of trips.

ROCKLAND (Me.)

Araho (3)	300,000	Flo (3)	90,000
Calm (2)	570,000	Helen Mae II (3)	94,000
Crest (2)	520,000	Little Growler (3)	114,000
Dorothy & Betty II (2)	55,000	Ocean (2)	515,000
Drift (2)	400,000	Tide (2)	460,000
Elin B. (3)	106,000	Wave (2)	360,000

Scallop Landings (Lbs.)

Jeanne D'Arc (1)	10,000	Rhode Island (2)	13,000
Pocahontas (2)	22,000		

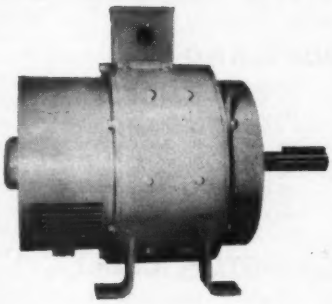
NEW BEDFORD (Mass.)

Adventurer (4)	76,700	Lynn (1)	2,000
Anastasia E. (3)	52,200		
Annie Louise (3)	35,000	Major J. Casey (4)	68,800
Annie M. Jackson (4)	95,700	Malvina B. (1)	24,500
Austin W. (2)	40,500	Marie & Katherine (1)	30,000
		Mary E. D'Eon (3)	65,800
Baracuda (3)	50,800	Mary Tapper (2)	67,700
Barbara M. (2)	52,000	Midway (4)	130,500
		Molly & Jane (2)	56,300
Cap'n Bill II (3)	91,100		
Charles E. Beckman (4)	56,800	Olive M. Williams (1)	23,200
Christina J. (3)	105,500		
Comber (2)	20,000		
Connie F. (3)	57,000	Pauline H. (4)	241,000
		Phyllis J. (3)	63,700
Dauntless (3)	59,500		
David & James (2)	13,600	Roann (1)	23,000
		Roberta Ann (3)	73,500
Elva & Estelle (2)	37,500	Rosemarie V. (2)	29,800
Eugene & Rose (3)	39,700	R. W. Griffin, Jr. (3)	84,300
Falcon (2)	26,000	St. Ann (3)	67,600
		Shannon (2)	24,000
Gannet (2)	105,500	Sherman (1)	9,000
Gladys & Mary (3)	140,500	Solveig J. (3)	123,500
Growler (3)	74,000	Stanley B. Butler (3)	167,500
		Sunbeam (2)	51,000
Harmony (3)	51,300	Susie O. Carver (3)	52,300
Hope II (4)	89,900		
Huntington Sandford (1)	14,700	Theresa & Jean (2)	59,500
		Two Brothers (3)	28,000
Invader (4)	101,600		
Ivanhoe (2)	56,000	Venture I (3)	76,100
		Victor Johnson (5)	85,300
Jacintha (2)	108,800	Viking (3)	135,500
Joan & Tom (2)	47,700		
Julia Da Cruz (2)	35,800		
		Whaler (2)	69,500
Katie D. (3)	128,000	Winifred M. (1)	10,300

Scallop Landings (Lbs.)

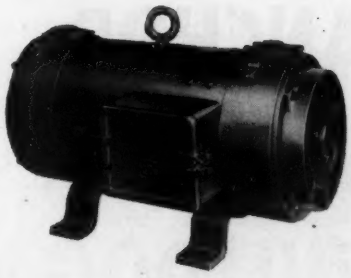
Agda (2)	7,100	Lauren Fay (1)	11,000
Aloha (2)	20,300	Linda & Warren (1)	4,000
Alpar (2)	19,000	Linus S. Eldridge (2)	18,800
Amelia (2)	20,600	Louis A. Thebaud (2)	20,000
		Louise (2)	22,000
Babe Sears (2)	20,000	Lubenray (1)	10,000
B. & E. (2)	15,500		
Barbara (2)	16,000	Malene & Marie (3)	32,700
B. Estelle Burke (2)	17,500	Maridor (2)	20,200
Bobby & Harvey (1)	4,000	Marmax (2)	16,000
Brant (2)	20,500	Martha E. Murley (1)	8,500
Bright Star (2)	19,500	Mary Anne (2)	21,500
		Mary J. Hayes (3)	30,000
Camden (2)	19,500	Mary J. Landry (1)	1,300
Carol & Estelle (2)	12,800	Monte Carlo (2)	20,600
Catherine & Mary (2)	21,000	Moonlight (3)	33,000
Charles S. Ashley (2)	18,500	Muskegon (1)	7,000
Dartmouth (2)	22,000	Nancy B. (1)	11,000
Debbie Jo-Ann (3)	32,500	Nellie Pet (3)	27,500
Dorothy & Mary (2)	22,000	New Bedford (3)	31,300
		Newfoundland (3)	32,000
Edgartown (2)	22,000	Noreen (1)	10,000
Eleanor & Elsie (2)	18,000		
Elizabeth N. (2)	17,800	Pearl Harbor (2)	22,000
Empress (2)	17,000	Pelican (1)	9,000
Eugene H. (3)	23,400	Porpoise (1)	4,800
Eunice-Lilian (2)	18,300		
Fairhaven (3)	32,300	Rush (2)	17,500
Felicia (2)	21,500	Ruth Moses (1)	10,000
Flamingo (2)	19,800		
Fleetwing (2)	22,000	Sea Hawk (2)	7,200
Friendship (2)	18,000	Sea Ranger (2)	19,200
		Sippican (2)	22,000
Janet & Jean (2)	19,500	Smilyn (2)	16,700
Jenny & Jimmy (1)	11,000		
Jerry & Jimmy (1)	5,500	Ursula M. Norton (2)	22,000
John G. Murley (2)	18,500		
Josephine & Mary (2)	20,000	Vivian Fay (2)	22,000
Kingfisher (3)	33,000	Wamsutta (2)	20,500
		Whaling City (2)	20,300
Laura A. (3)	22,000	William D. Eldridge (3)	31,000

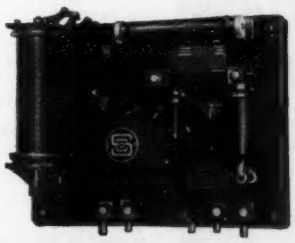
"SAFETY" Generating and Electrical Control Equipment for Ships . . .



"Safety" Marine Generators . . . ranging in capacity from 5kw to 30kw . . . provide a constant dependable power source.

"Safety" Motor Alternators . . . for DC to AC power conversion . . . to supply power for radio, radar communication and lighting aboard ship.





"Safety" Regulators . . . for generator and load control and **"Safety" Reverse Current Relays** to automatically connect and disconnect the generator from the battery and load, are widely accepted by the marine industry.

Contact the "Safety" Marine Division for further information concerning our marine products and for the name of nearest agent.

MARINE DIVISION P.O. BOX 904 — **SAFETY INDUSTRIES, INC.** — NEW HAVEN, CONNECTICUT

"SAFETY" MARINE PRODUCTS INCLUDE: Variable and Constant Speed Generators · Generator Regulators Load Regulators · Reverse Current Relays · Motor Generators · Motor Alternators.

WOODS HOLE (Mass.)

Arnold (3)	34,200	Morning Star (3)	8,200
Bernice (2)	6,100	Nancy Jane (1)	400
Bluefin (3)	20,300	Papoose (1)	1,500
David & James (1)	3,500	Priscilla V. (3)	33,100
Driftwood (2)	10,200	Reliance (1)	2,100
Elva & Estelle (1)	2,500	Roann (2)	18,300
Gertrude D. (2)	22,500	Southern Cross (2)	32,100
Jenny (2)	33,900	Three Bells (2)	26,400
Little Lady (1)	100	Viking (1)	2,000
Madeline (4)	17,500		

Scallop Landings (Lbs.)

Adele K. (1)	2,800	Porpoise (1)	6,600
Friendship (1)	500	Richard Lance (1)	7,200
Lubenray (1)	11,000	Ruth Moses (2)	11,000
Nancy Jane (1)	11,000		

BOSTON (Mass.)

Addie Mae (1)	400	Flying Cloud (3)	355,000
Agatha (3)	141,500	Gaetano S. (1)	72,300
Agatha & Patricia (3)	121,800	Geraldine & Phyllis (3)	117,300
Alphonso (1)	700	Hazel B. (3)	141,200
Angie & Florence (2)	45,200	Holy Family (3)	146,500
Arlington (3)	346,800	Jane B. (2)	133,200
Atlantic (3)	227,400	J. B. Junior (2)	191,600
Baby Rose (3)	150,600	J. B. Junior II (3)	15,200
Bay (2)	191,800	Jennie & Lucia (2)	68,100
Bonaventure (1)	84,400	Josephine F. (4)	30,100
Bonnie (3)	264,900	Josephine P. II (3)	68,700
Bonnie Billow (3)	211,200	Killarney (1)	37,400
Bonnie Breaker (2)	146,800	Lady of Good Voyage (2)	64,800
Bonnie Breeze (3)	230,300	Lady of the Rosary (2)	49,000
Brighton (3)	197,800	Leonard & Nancy (3)	79,300
Buzz & Billy (3)	115,000	Magellan (4)	100,500
Cambridge (3)	284,600	Manchonoch (1)	27,100
Caracara (2)	97,600	Manuel F. Roderick (3)	162,500
Carmela Maria (6)	28,400	Mary & Joan (3)	136,200
Catherine B. (5)	47,100	Mary Ann (2)	33,000
Chanco (1)	93,700	Mary Rose (3)	155,900
Cigar Joe (3)	113,700	M. C. Ballard (3)	182,500
Columbia (3)	129,300	Michigan (3)	310,300
Comet (3)	200,100	Morning Star (2)	61,000
Dolphin (3)	64,600	Mother Frances (3)	127,100
Doris F. Amero (1)	30,400	Nautilus (2)	93,500
Eagle (2)	149,100	New Star (2)	152,100
Edith L. Boudreau (1)	38,900	Notre Dame (3)	108,900
Elizabeth B. (2)	104,100	Ocean Clipper (1)	19,700
Emily H. Brown (2)	114,500	Ocean Wave (2)	58,800
		Ohio (3)	149,900
		Olympia (2)	53,900
		Olympia La Rosa (3)	104,100
		Pam Ann (1)	68,000
		Patty Jean (2)	145,200
		Phantom (2)	195,400
		Pilgrim (3)	114,600
		Plymouth (2)	131,300
		Puritan (2)	78,600
		Racer (2)	222,500
		Raymonde (3)	161,300
		Red Jacket (1)	119,500
		Roma (2)	8,800
		Rosa B. (2)	249,100
		Rosie (7)	60,700
		Rush (3)	236,600
		St. Angelo (3)	111,400
		St. Anna (2)	18,600
		St. Anthony (2)	155,400
		St. Joseph (3)	94,400
		St. Marco (2)	46,200
		St. Nicholas (2)	120,100
		St. Peter (3)	63,500
		St. Peter III (3)	59,300
		St. Rosalie (2)	69,100
		St. Victoria (3)	94,400
		Salvatore (1)	3,300
		Sant' Antonio II (3)	25,700
		Santa Maria (4)	109,600
		Santa Rita (1)	13,600
		Santa Rita II (2)	27,000
		Savoia (1)	8,300
		Star of the Sea (2)	58,700
		Sunlight (1)	75,700
		Swallow (3)	220,600
		Texas (2)	148,600
		Thomas D. (3)	104,800
		Thomas Whalen (2)	117,700
		Villanova (3)	107,700
		Weymouth (3)	276,500
		Wild Duck (3)	153,900
		William J. O'Brien (2)	198,000
		Winchester (3)	309,900
		Wisconsin (3)	321,000

SEATTLE

Halibut Fleet Fishery

Addington (2)	38,800	Merit (1)	2,200
Bergen (3)	63,300	Mermaid (2)	38,600
Bernice (2)	27,900	Nordby (1)	11,300
California (2)	45,500	Nordic (1)	17,800
Celtic (1)	17,500	Nova (2)	30,700
Constitution (2)	44,500	Oceanus (1)	10,150
Coolidge (1)	15,100	Orbit (2)	31,000
Eclipse (1)	18,000	Pacific (1)	25,000
Estep (1)	10,500	Presho (2)	13,200
Ethel S. (3)	85,500	Regina (2)	41,300
Eureka (1)	8,000	St. John (1)	11,200
Faith II (2)	26,450	Sea Bird (2)	32,850
Forward (2)	25,600	Shirley J. (1)	10,000
Freya (2)	44,900	Summit (1)	8,000
Frigidland (1)	16,000	Swift II (1)	6,100
Gloria II (1)	8,000	Sylvia (3)	99,000
Hoover (2)	34,000	Thor (1)	40,000
Inez M. (3)	52,800	Traveler (1)	7,200
Ivanhoe (2)	57,000	Trinity (1)	19,000
Leviathan (2)	12,050	Urania (1)	12,000
Lloyd (1)	13,400	Yukon (1)	20,400
Masonic (1)	19,500		

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Clipper (1)	47,000	Tina B. (3)	153,500
Star of the Sea (2)	65,400		

Scallop Landings (Lbs.)

Barbara & Gail (2)	17,800	Irving H. (1)	2,500
Beatrice & Ida (2)	12,200	Miriam A. (1)	7,900
Carol-Jack (2)	12,300	Norseman (2)	8,400
Catharine C. (1)	5,100	Richard Lance (1)	10,000
Clipper (2)	9,900	Rosalie F. (2)	13,400
Florence B. (1)	5,800	S-No. 31 (2)	11,600

PORTLAND (Me.)

Agnes & Elizabeth (3)	153,000	Lawson (2)	105,000
Alice M. Doughty II (2)	37,000	Mary & Helen (1)	2,900
Andarte (5)	445,000	Medan (1)	330,000
Blanche R. III (3)	4,300	Quincy (1)	180,000
Cigar Joe (1)	22,500	St. George (2)	390,000
Courier (3)	242,000	St. Joseph II (2)	1,700
Dorchester (2)	280,000	Theresa R. (3)	228,500
Dorothy & Ethel II (5)	92,900	Vandal (3)	244,500
Ethelina (3)	68,000	Wawenock (1)	260,000
Kennebec (4)	130,500	Winthrop (1)	130,000

STONINGTON (Conn.)

Averio (10)	4,900	Little Chief (14)	10,400
Bette Ann (11)	11,100	Luann (2)	7,400
Carol & Dennis (1)	1,200	Marise (18)	16,400
Carolyn & Gary (13)	16,900	Mary H. (3)	600
Connie M. (15)	15,200	New England (3)	8,000
Fairweather (17)	51,200	Old Mystic (10)	12,500
Irene & Walter (14)	22,000	Rita (1)	3,000
Jane Dore (9)	10,100	Weezie May (1)	600
Lt. Thos. Minor (15)	16,900	William B. (1)	1,800
Lisboa (1)	200		

GLOUCESTER (Mass.)

Admiral (2)	133,000	Lady of Good Voyage (1)	105,000
Alden (4)	72,000	Linda B. (4)	9,500
American Eagle (7)	145,500	Little Flower (7)	180,500
Anna Guarino (12)	58,500	Little Joe (7)	61,000
Ann & Marie (9)	20,000		
Annie (12)	50,500	Malolo (2)	110,000
Anthony & Josephine (12)	140,500	Margaret Marie (8)	112,000
Atlantic (1)	37,000	Margie L. (3)	4,500
		Maris Stella (2)	155,000
Blue Waters (1)	6,000	Mary Ann (3)	75,000
Bonaventure (2)	52,000	Mary Jane (1)	190,000
		Michael F. Densmore (1)	9,000
Cape Cod (12)	119,500	Morning Star (6)	68,000
Carlannsul(9)	45,500	Mother Ann (2)	480,000
Carlo & Vince (5)	94,500		
Catherine B. (3)	63,500	Nancy & Maria (10)	71,500
Cigar Joe (1)	1,000	Natale III (2)	38,000
Clipper (2)	175,500	Njorth (2)	8,000
Curlew (1)	160,000	No More (1)	500
		North Sea (2)	235,000
Dawn (9)	37,500		
Demand (1)	1,500	Ocean Clipper (1)	83,000
Doris F. Amero (2)	102,000	Ocean Life (1)	350,000
Dragnet (1)	55,000	Ocean Spray (3)	127,000
		Ocean Wave (1)	95,000
Eagle (1)	175,000	Olympia (2)	76,000
Eddie & Lulu M. (6)	12,500	Our Lady of Fatima (1)	200,000
Edith L. Boudreau (2)	200,000		
Eleanor May (6)	9,500	Peggy Belle (3)	2,000
Estrela (1)	230,000	Pioneer (7)	11,000
Etta K. (6)	45,500	Ponce De Leon (8)	10,000
Eva M. Martin (3)	7,000	Priscilla (1)	1,000
Eva II (9)	29,500		
Evelina M. Goulart (3)	232,000	Rose & Lucy (1)	1,000
Evelyn C. Brown (1)	275,000	Rosemarie (4)	34,000
		Rosie & Gracie (3)	85,000
Falcon (11)	142,500		
Figueira Da Foz (1)	115,000	St. Ann (1)	3,000
Florence & Lee (1)	180,000	St. Anna Maria (10)	167,500
Flow (2)	520,000	St. Anthony (1)	160,000
Frances R. (7)	128,000	St. Cabrini (7)	176,000
Frankie & Jeanne (9)	18,500	St. John (12)	32,000
		St. Mary (14)	185,000
Gaetano S. (1)	75,000	St. Providenza (11)	55,000
Gertrude E. (4)	4,500	St. Stephen (10)	54,000
Giacoma (13)	36,000	St. Terese (7)	138,500
Golden Eagle (1)	125,000	St. Victoria (2)	33,000
		Salvatore & Grace (8)	201,000
Helen B. (6)	64,000	Santa Lucia (9)	60,000
Helen M. (4)	78,500	Sebastiana C. (9)	204,000
Holy Name (6)	153,500	Serafina N. (1)	3,000
		Serafina II (2)	17,500
Ida & Joseph (3)	37,500	Star of the Sea (1)	10,000
Immaculate Conception (7)	91,500	Sunlight (1)	29,000
Irma Virginia (5)	8,500		
		Theresa M. Boudreau (2)	410,000
Jackson & Arthur (9)	40,500	Tipsy Parson (11)	25,000
Joseph & Lucia (2)	148,000		
Joseph S. Mattos (1)	180,000	Victoria (4)	3,500
Josie II (10)	43,000	Villanova (1)	230,000
Judith Lee Rose (2)	560,000	Vincie N. (4)	158,000
		Virginia Ann (10)	164,500
Killarney (4)	128,000		
Kingfisher (1)	220,000	White Owl (12)	36,500
Kurta (2)	1,500	Wild Duck (1)	2,000

Scallop Landings (Lbs.)

Francis L. MacPherson (2)	22,000	Stephen R. (1)	4,000
Michael F. Densmore (1)	11,000	Sylvester F. Whalen (1)	11,000
Rita B. (1)	11,000	Whaler (1)	4,500

Canada Approves Antibiotic Process For Keeping Fish Fresh Longer

Canadian fishermen recently were armed with a new weapon in their battle to save an estimated $25,000,000 worth of fish spoiled by bacteria each year. The Canadian Government has cleared the use of the antibiotic process "Acronize", which is claimed to keep fish fresh for at least one week longer than is possible with ordinary icing and refrigeration methods. The process, developed by American Cyanamid Co., employs the antibiotic Aureomycin.

Industry sources estimate that at least 17 per cent of the Canadian fish catch spoils before the boats dock at the piers, while another six per cent is lost before the fish reaches the market. According to the American Cyanamid Co., indications are that Acronize will prevent a major part of this bacterial spoilage.

The process now cleared by the Canadian Government involves the addition of about 4.5 grams of Acronize to the freezing cans (along with the necessary water) to make a 300-pound cake of ice. The Acronize is used in such small amounts that it has been impossible to detect any remaining in the fish after they are cooked. Cost of enough Acronize for a ton of ice is about two dollars.

Storage Period of Fish at Sea Is Important

A test in 1954 on 4,000 pounds of cod and haddock fillets shipped 1,000 miles from Halifax to St. Catharines, Ont., in July and August revealed that the most important single thing influencing the quality of such fillets in distant retail markets is the storage period of the fish at sea. It is claimed that Acronize not only will extend the storage life of fish aboard ship, but will allow the fishing vessels to range farther out to sea to tap new, unexplored schools of fish.

Burton F. Bowman, general sales manager of Fine Chemicals Div., American Cyanamid Co., explained that the Acronize process also should result in savings in the canning industry, because by keeping fish fresh longer, the process would lengthen the canning season, thus reducing labor costs. Since canners operate their factories only in season, they must utilize every minute of the day, often paying large amounts of overtime to insure that every fish available is canned.

Spokesmen for American Cyanamid emphasize that Acronize is an additional safeguard and not a substitute for fish refrigeration and good sanitation practices. They said the process would be made available to fishermen and processors in Canada only under a franchise arrangement which would require the strictest sanitary standards.

Acronize has been approved in the United States for use on poultry, and additional formulas now are being developed for use on red meat and other perishable food products.

Delaware Opens Oyster Beds

The State Commission of Shell Fisheries, by order of the Delaware State Board of Health, opened the oyster beds in the Mispillion River on October 15 for commercial tonging. About 25 tongers were working the area, and on the 16th the total value of oysters brought into the Mispillion Light Wharf was about $1,000.

The Commission's action in opening the beds climaxed a long fight to have this done. Instrumental in the campaign was the former mayor Milford, Edward C. Evans. Years ago it was claimed that the oysters were polluted by the Milford disposal plant. The plant was improved, but the beds remained closed.

Mispillion oysters formerly were rated as some of the best along the Delaware Bay coast. While the beds in the River have been opened for hand tonging, no dredging is permitted.

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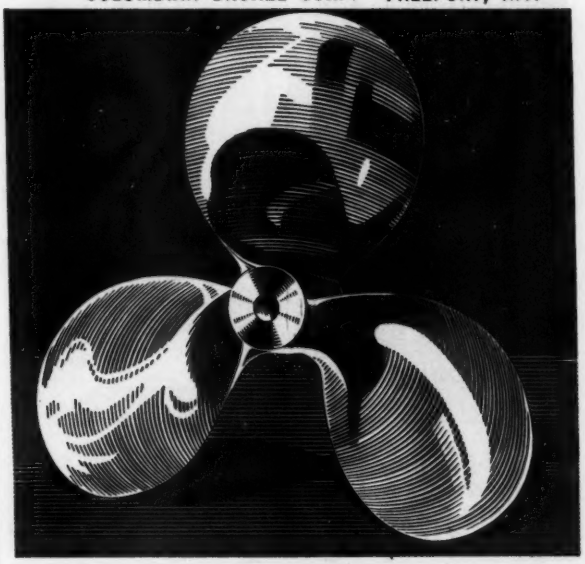

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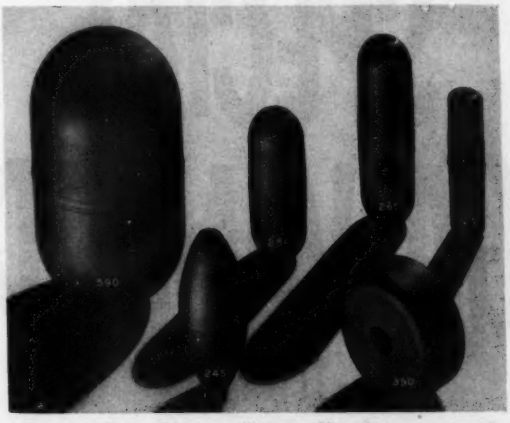

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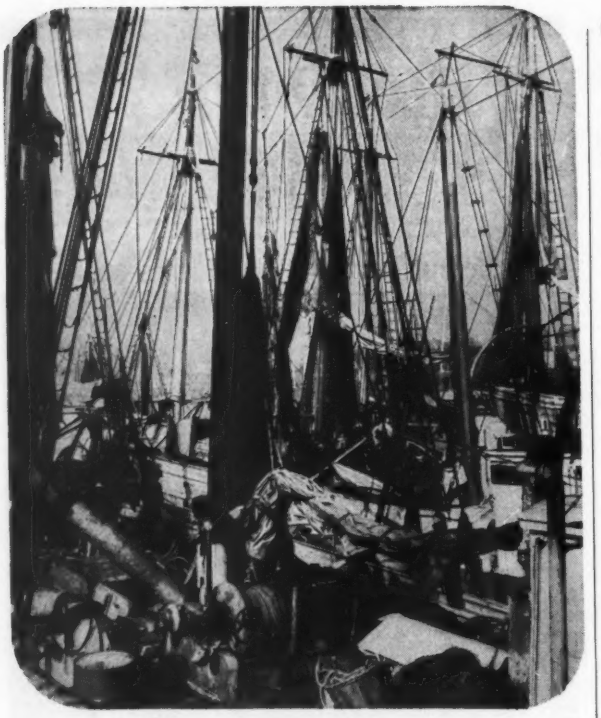

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Cape Cod Has Fair Crop of Bay Scallops at Wellfleet

A fair scallop season in Wellfleet is expected this year, with all 12 boats which went out on October 8 bringing back their limit of 20 bushels a boat, where two or more men are fishing.

The scallops were of fairly good size and fairly firm for this time of year. While the season is not expected to produce a record crop, it is expected to last for several months.

"Aerolite" Goes Aground

The 55-ft. Provincetown fishing boat *Aerolite*, Capt. Joaquin Martin, went aground late last month when her mooring cable parted. The vessel drifted onto sandy beach, just missing hitting a small jetty at the West End municipal parking area. The stern rested on a rock which made a small hole in the vessel, but other than that there was no damage.

Lobster Eggs Produced in Hatchery

Several thousand lobster eggs recently were produced, 10 months after the female lobsters were mated to males in the unnatural captivity of a tank at the Mass. Lobster Hatchery and Experimentation Station at Oak Bluffs. Hatchery officials believe it to be the first time in the history of lobster culture that man has been able to mate lobsters in hatchery tanks, with eggs resulting from the union.

Control of the lobster's home life from conception to adulthood holds almost unlimited possibilities for the production of commercial lobster meat, since hatchery protection already has increased the survival rate of lobster larvae from one in 1,000 to 250 in 1,000.

Industry-Sponsored Safety Standards

(Continued from page 12)

the fact that the fishermen vary around the coast. They are not all deep-water sailors, and they do not all sail big ships which have to catch 90 tons of fish on each trip to pay their way. Some of the vessels need only 5 tons of fish, and they make money on that small catch."

Enforcement Body Necessary

G. O. Huet, Naval Architect at Higgins Inc., New Orleans, La., pointed out that the Bureau Veritas and Lloyds have rules and regulations for the construction of fishing vessels and small craft, but the American Bureau has no such rules. The Society of Naval Architects and Marine Engineers are concerned naturally with larger vessels, but they have taken an interest in the last few years in trying to establish information regarding small vessels.

Mr. Huet said that, as an architect, he is very much interested towards establishing correct methods, and is a member of the Society of Small Boat Designers, formed to study and correct failures in small boat construction.

He pointed out that "if regulations are to be set up and enforced, there must be an enforcement body. Merely to study the problem and make recommendations is not going to do any good," Huet concluded.

More Instructions Needed on Operation of Engines

Wm. C. Miller of Wm. C. Miller & Associates, Marine Surveyors and Marine Engineers, San Diego, Calif., said that manufacturers of engines and other equipment ought to give more help than they have in the past in teaching fishermen the correct way to operate and handle this equipment.

Mr. Miller said that he, personally, did not want Government regulations for the fishing boat industry. It would be far better for the industry to set up its own

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standards for construction and safety, Mr. Miller pointed out.

Insurance Companies Could Provide Incentive

R. T. Whiteleather, assistant chief of the Fish & Wildlife Service's Commercial Fisheries Branch, believes that insurance underwriters should set up a system whereby the owner who operates his boats with a high degree of safety gets cheaper insurance. This would provide a dollar and cents incentive to observe good standards of construction and to train crews to guard the safety of vessels.

Smith Joins Harbor Supply Oil Co.

Prentiss M. Smith has been appointed sales engineer of Harbor Supply Oil Co., Portland, Maine, where he will handle sales of Allis-Chalmers (Buda) Diesels and Red Wing gasoline and Diesel engines. He was formerly associated with Morrissey Bros. Tractor Co., Burlington, Mass., the Allis-Chalmers distributor in that area.

Smith has had considerable waterfront experience during the past 20 years, having skippered various types of craft, from schooners to Liberty ships. He holds an unlimited master's license.

Harbor Supply Oil Co. has just completed installation of a Model D4-45 Red Wing Diesel, rated 45 hp. at 2400 rpm., with Snow-Nabstedt 2:1 reduction gear, in Capt. Ray Stoddard's 40' lobster boat *Condor* of Portland.

Red Wing Meteor gasoline engines have been installed in three boats. A 110 hp. model with 2:1 reduction gear has gone into Capt. Lawrence Coyle's 35' lobster boat at Cape Porpoise, a 110 hp. direct drive engine has been placed in the 35' sardine seiner owned by Capt. James Ross of Chebeague Island, and a 60 hp. model with 2:1 reduction was purchased by Capt. Henry Dyer of Chebeague Island for his 28' lobster boat.

H. William Miller, left, manager, and Prentiss M. Smith, newly appointed sales engineer of Harbor Supply Oil Co., Portland, Me. The firm is distributor of Red Wing and Allis-Chalmers marine engines.

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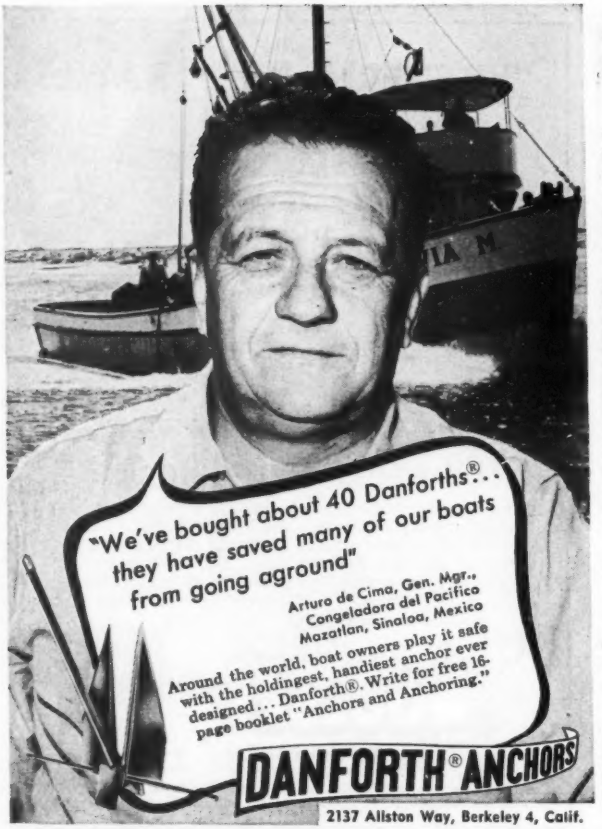
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Alabama License Regulations To be Enforced More Strictly

Regulations were tightened in early October on enforcing license schedules relating to the taking of shrimp from Mobile Bay area waters. Particularly being checked were licenses held by small boat operators taking shrimp with trawls or seines. It is reported that some of these boats have been taking shrimp for commercial purposes without first obtaining proper licenses.

Another facet of the shrimping industry which will come in for more consideration is the taking of shrimp for bait purposes. Complaints received concerning the improper use of shrimping licenses have indicated that many persons have been taking shrimp on the pretext of using them for bait or for resale as bait, when they actually sold them for eating purposes.

B. B. Larrimore, chief of the Seafoods Division of the State Dept. of Conservation, said his Department intends to enforce all the license laws concerning seafood catches and uses more strictly in the future. He advised all shrimpers and fishermen to familiarize themselves with the laws governing such activities, and to purchase proper licenses for the coming year.

Seafood Production Increases

The commercial production of fishery products from the Alabama coastal area during July amounted to 1.8 million pounds, or an increase of 130,000 pounds compared with July 1955. Gains were reported in the production of shrimp, flounders and red snapper.

Shrimp, hard crabs, mullet, and red snapper led all other items in volume and accounted for 95 percent of the total landings. The shrimp catch off Horn Island was light, but an excellent production was reported from Mobile Bay and Mississippi Sound.

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Study of Bay of Fundy Water Currents May Reveal Origin of Herring Stocks

Miniature floating radio stations are going to help United States and Canadian scientists study the currents of the Bay of Fundy. Immediate results of the study will be to discover the drift of surface water so that fisheries biologists can determine the origin of herring stocks in the Bay. They hope eventually to be able to make long-range predictions of herring movements and abundance.

Early in October the Canadian scientists set adrift three "transponding" drift buoys in the region of Trinity Ledges and Lurcher Shoals off southwestern Nova Scotia. The buoys were allowed to drift in the Fundy currents for two weeks, during which time they were "mothered" by the Canadian Federal Department of Fisheries vessel *Harengus*. A Fish and Wildlife Service PBY aircraft assisted in spotting the buoys daily.

The pole-like buoys—20 feet in length and six inches in diameter—are weighted so that only two feet of the buoy shows above water. To it is attached a 12-foot-long whip antenna. Inside the cylinder is a miniature transmitting station which not only transmits a signal twice a day to the *Harengus*, but also will automatically answer the mother ship whenever it calls the drift buoy.

The experiments with the drift buoys will be repeated each month in order to furnish the scientists with a precise measurement of the drift of surface water in the Bay of Fundy. This will augment the 300 drift bottles which already are floating in the Bay of Fundy with messages inside telling the finder that a reward awaits him for reporting the bottles and other information to the Canadian Biological Station at St. Andrews, N. B.

The Bay of Fundy herring industry is very valuable to Canada, as well as to the New England States. The total landings of all herring in 1955 by Canadian vessels in the Bay of Fundy amounted to 33,150,000 pounds, with a landed value of $528,000.

Maryland Opens Seed Area to Tongers

The Holland's Straits oyster seed area in Somerset and Dorchester Counties was opened to tongers on October 15 and will remain open until further notice. The area was opened for the taking of oysters with shaft tongs operated by hand, only.

Tongers in the Crisfield area expressed the opinion that the opening came at an opportune time, as their production since the season opened in Somerset County on Sept. 15, has been very small.

A tax of 20 cents per bushel, in addition to the regular inspection taxes, must be paid to defray the cost of planting the area.

Getting Ready for Dredging Season

Somerset County watermen were busy late last month readying their boats and equipment for the oyster dredging season which was scheduled to open November 1. The larger boats located in various tidewater sections of the County were being scraped, painted and rigged.

Watermen were predicting hauls of from fifty to sixty bushels a day per boat this season. It was expected that the production from the dredging season this year would equal, if not surpass, that of last season.

Want Uniform Opening Date for Tonging

Two hearings were held last month in Annapolis and Cambridge on proposals for changes in Maryland's fisheries laws. The Legislative Council's Judiciary Committee, of which State Sen. Frederick L. Malkus is chairman, held the hearings.

Those in attendance at both meetings agreed that the General Assembly should establish a uniform opening date for the oyster tonging season. It also was proposed that the oyster shell planting program be placed in the hands of one man, with counties taking over authority for bordering waters.

Rock Hall watermen proposed a lengthening of the "oystering day", and pointed out that under present State laws, the deadline for handling oysters is one hour after sunset. Many watermen must leave their catches in their boats overnight, often to freeze, because they are unable to return to shore in time to unload.

Challenges Oyster Dredging Ban

Richard C. Webster, head of the Somerset Seafood Co. of Deal Island, has challenged an order from the Tidewater Fisheries Commission forbidding him to dredge for oysters in Piney Island Swash. He contends that he and his associates invested thousands of dollars in planting their own oyster beds in the swash, after previous Commissions had permitted dredging there.

John P. Tawes, chairman of the Tidewater Fisheries Commission, said he ordered the enforcement of the dredging ban after receiving numerous complaints from other watermen. He pointed out that the law permits only tonging for oysters in the Manokin River, and he said the swash is part of the river, according to legal definitions filed with Maryland oyster laws.

Robert Lee Shores, Tidewater Fisheries Commission enforcement chief, said that in the past there had been no enforcement of the dredging ban in the swash. John C. Wiedner, a State hydrographic engineer, described the swash as a channel separated from the Manokin River by a sand bar.

Thomas F. Simpkins of Princess Anne and E. Dale Adkins of Salisbury, represented Webster. Simpkins said the location of the swash had been defined as far as natural oyster purposes are concerned, but not for private practices. He said the firm's operation is a private one.

Judges E. McMaster Duer and W. Laird Henry, Jr. directed both sides to file briefs and set arguments for the week of November 5.

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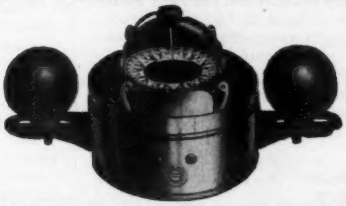

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The International Nickel Co., Inc., 67 Wall St., New York 5, N. Y.

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Jabsco Pump Co., 2031 N. Lincoln St., Burbank, Calif.
Sudbury Laboratory, South Sudbury, Mass.

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Decca Radar Inc., 539 West 25th St., New York 1, N. Y.
Edo Corporation, College Point, L. I. N. Y.
Lavoie Laboratories, Inc., Morganville 16, N. J.
Radiomarine Corp. of America, 75 Varick St., New York 13, N. Y.

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Morehead City Shipbuilding Corp., Morehead City, N. C.
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The Maxim Silencer Co., 126 Homestead Ave., Hartford, Conn.

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Metal Marine Pilot, 342 Golden Gate Ave., Tacoma, Wash.

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Hancock Marine, 1567 No. Main St., Fall River, Mass.
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Stroudsburg Engine Works, 62 North 3rd St., Stroudsburg, Penn.

WIRE ROPE
American Steel & Wire Division, United States Steel, Rockefeller Bldg., 614 Superior Ave., Cleveland 13, Ohio.
John A. Roebling's Sons Co., Trenton 2, N. J.
Wickwire Spencer Steel Division of The Colorado Fuel & Iron Corp., Palmer, Mass.

FOREIGN BAILINGS

ICELANDIC-SOVIET AGREEMENT signed recently will be effective for calendar years 1957, 1958, and 1959, and proposes Icelandic exports of fishery products to Soviet Russia as follows: (quantities in 1956 agreement shown in parenthesis): frozen fish fillets, 32,000 metric tons (20,000); salted herring, 15,000 tons (15,000); frozen herring, 1,000 tons (none); and unclassified commodities to value of $123,000 (unchanged from 1956).

The 1956 Trade Agreement was amended recently to include an additional 8,000 metric tons of frozen fillets to be delivered by Iceland to Soviet Russia.

FACTORYSHIPS FOR RUSSIA, which apparently are of same general design as British *Fairtry*, are being built in West Germany. First of 24 such Russian stern-trawling factoryships, and first of 20 Diesel trawlers, being built in England, have been completed.

The factoryships are approximately 245 feet between perpendiculars, and are designed to freeze whole fish, to process, freeze, and pack fillets, and have meal and liver oil plants. The Diesel trawlers are approximately 172 feet long.

MEXICAN SHRIMP SEASON on west coast, which terminated on August 31, is reported to have been the best in a great many years. Market for Mexican west coast shrimp in United States was excellent all season.

Shipyards have under construction or under contract to construct some 40 additional Mexican shrimp vessels, which will bring entire shrimp fleet up to about 450 boats.

ICELANDIC FISH EXPORTS (frozen) to United States are definitely on the increase, for the first time in two years. Shipments through September 30 were expected to reach about 12,072 metric tons, in comparison with 9,153 metric tons for same period last year.

ADVERTISING CAMPAIGN to sell more fresh fish in domestic markets has been recommended by Norwegian National Association for Marketing of Fresh Fish. To finance the campaign, payment of a tax of about 32 cents a hundredweight on all fresh fish sold on domestic markets is proposed.

SWEDEN'S LOAN PROGRAM for commercial fishermen has been in existence for about 50 years. Loans are granted for purchase of vessels, motors, or other machinery, gear, and for shoreside equipment, such as packing buildings, vehicles, and for fish culture.

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CLASSIFIED ADVERTISING

Rates: $1.00 per line, $5.00 minimum charge. Count 9 words to a line. Closing date, 25th of month. National Fisherman, Goffstown, N. H.

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ENGINES FOR SALE

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BOATS FOR SALE

First class owner-operated boats. Maine boats. Eastern rig—50' x 16' x 7'. 6-71 G. M., 4½:1 red. gear, fully equipped, capacity 45,000 lbs., price $17,000.

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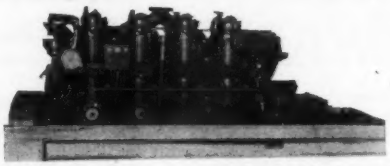

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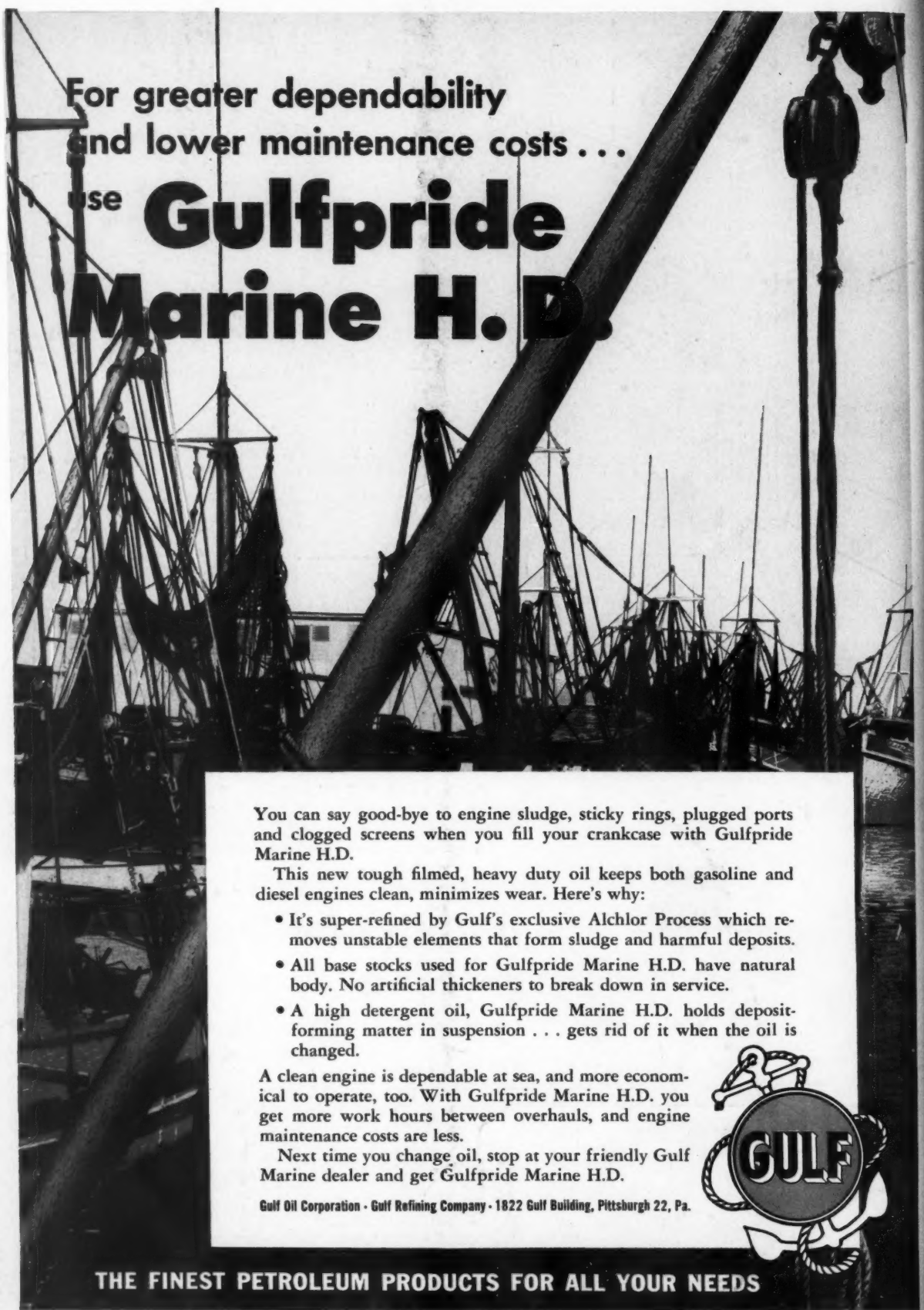

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